# Construction Specifications for the Ticket Research File: TRF10 Volume 1

September 21, 2012


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*Overview of TRF documentation*

This document is one of several that provide information about the Ticket Research File (TRF) to help researchers understand and use its data. The full TRF documentation includes the User's Guide, the Data Dictionary, and the Construction Guide. All of these documents are available to SSA staff on the SSA intranet site at http://ordp.ba.ad.ssa.gov/OPDR/content/research#daf. Other TRF users can contact OPDR.DAF@ssa.gov with inquiries regarding TRF documentation.

*Descriptions of the documents that comprise the TRF10 data documentation*

**User's Guide for the Ticket Research File: TRF10 Volumes I and II** (Hildebrand et al. 2012). The purpose of the User's Guide is to assist users in understanding the TRF10 and related files. Volume I provides an overview of the structure of the TRF and related files, and a summary of key variables are described in more detail in the TRF10 Data Dictionary. It describes methods to use and link TRF files and other data sources for research purposes. Volume II contains detailed appendices, including file layouts for the data sources described in Volume I.

**Data Dictionary for the Ticket Research File: TRF10 Volumes I and II** (Hildebrand et al. 2012). The Data Dictionary provides detail on TRF variables. Volume I includes an overview of the structure of the various TRF components, a list of variables, and an explanation of each of the variable description fields in Volume II. Volume II contains specifications for each variable, including name, definition, data format, identification of the TRF component to which it belongs, data source, availability, and selected SAS code used to construct the variable. Selected variables are annotated with additional information and context for researchers.

**Construction Specifications for the Ticket Research File** *(this document)***: TRF10 Volumes I and II** (Hildebrand et al. 2012). The Construction Specifications provide technical details on the construction of TRF10. Volume I describes the construction and validation process, and mainframe data processing methods. The appendices collected in Volume II include the SAS and JCL code used in constructing TRF10, validation tables and charts used, and a glossary of terms.

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# CONTENTS

VOLUME I


I INTRODUCTION ..... I

A. Overview of the Construction Guide ..... I.1

B. Description of the TRF Database ..... I.1

C. Structure of the TRF Database ..... I.1

D. Structure of the Construction Guide ..... I.4

II TESTING AND VALIDATION ..... II

A. Overview & Methods ..... II.1

B. TRF10 Results ..... II.2

III ASSESSING DATA NEEDS FOR TRF10 ..... III

A. Overview of the Process ..... III.1

B. Process for Assessing Data Needs ..... III.1

IV SYSTEMS INFORMATION ..... IV

A. Mainframe Data Processing ..... IV.1

V CONSTRUCTION STEPS ..... V

TASK 1: Assemble & Combine DBAD Files ..... V.1

TASK 2: Assemble & Combine CER 100% Files ..... V.4

TASK 3: Create Finders ..... V.7

TASK 4: Submit Finders ..... V.10

TASK 5: Process 831& 832/833 Data ..... V.12

TASK 6: Process MBR Data: Part A ..... V.17

TASK 7: Process MBR Data: Part B ..... V.23

TASK 8: Process SSI-LF Data ..... V.28

TASK 9: Process Numident Data ..... V.32

TASK 10: Create TRF Demo Data ..... V.36

TASK 11: Create TRF Ticket Component .....V.40

TASK 12: Format Earnings Data .....V.45

TASK 13: Left Due to Work Flags .....V.48

TASK 14: Create TRF Annual Data.....V.53

TASK 15: Create Payments Data.....V.60

TASK 16: Create RSA Linkable File.....V.61

VOLUME II

APPENDIX A: PROGRAMS & JCL LISTINGS

APPENDIX B: TABLES/CHARTS

APPENDIX C: GLOSSARY

# I. INTRODUCTION

## A. Overview of the Construction Guide

The File Construction Guide describes the design and construction steps of the Ticket Research File (TRF) for 2010. As the Guide is intended for use by programmers at SSA and elsewhere, it is written using technical terminology, and the reader is assumed to have a working knowledge of SSA administrative variables, the general structure of the TRF database, and the SAS programming language. Further detail on each variable contained within the TRF can be found in the TRF10 Data Dictionary. For assistance in using TRF data, including suggestions on particular variables that may be useful in different research contexts, and an overview of the administrative data sources and selection criteria used to construct the TRF, see the TRF10 User's Guide.

The Construction Guide contains five chapters. This introductory chapter describes the TRF and the structure of its components. Chapter II, "Testing and Validation," explains the protocol for validation of the TRF. Chapter III, "Assessing Data Needs for TRF10", details the protocol for preparing for each version of the TRF. Chapter IV, "Systems Information", describes selected technical aspects of working with SSA administrative data on the SSA mainframe. In Chapter V, "Construction Steps," each of the sixteen tasks required to construct the TRF are detailed in a tabular format and each is accompanied by a workflow chart. Finally, there are three appendices: Programs and JCL listings, Tables/Charts and Glossary.

This document, along with all other TRF documentation, is available to SSA staff on the SSA intranet site at http://ordp.ba.ad.ssa.gov/OPDR/content/research#daf. Other TRF users should contact OPDR.DAF@ssa.gov with inquiries regarding TRF documentation.

## B. Description of the TRF Database

The TRF is an analytical file housed on the SSA mainframe at the Baltimore data center, and accessible via SSA facilities at the ITC building in Washington, DC. The TRF contains longitudinal and one-time data compiled from SSA administrative data on selected disability beneficiaries who participated in the Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) programs between March 1996 and December 2010.

The data are extracted from various SSA data files, including SSI-LF, CER 100% Field files, MBR, PHUS, DBAD, DCF, 831 & 832/833, and Numident. Many longitudinal variables have data for the time period January 1994 to December 2010. Some variables have shorter time ranges, but none is earlier than January 1994. Longitudinal variables include such items as state of residence, diagnosis codes, and benefit payments, while one-time variables include data such as SSN and Date of Birth. Data from SSI and SSDI sources are combined into a single record per beneficiary.

## C. Structure of the TRF Database

The TRF consists of four components, and each is described in more detail below. Detail on specific variables is available from "Data Dictionary for the Ticket Research File (TRF10)" while guidance on using the data for research purposes is available in "User's Guide for the Ticket Research File: TRF10".

## 1. Demo

This component contains one-time data such as SSN and Date of Birth for all beneficiaries ever selected for inclusion in the TRF, for a total of 24,005,236 records. Much of the data are demographic, hence the name Demo. Some records are for SSI beneficiaries only, some are for SSDI beneficiaries only, and some are for concurrent beneficiaries. Data items that are specific to the SSI program are blank or missing if the beneficiary participates only in the SSDI program, and vice versa for data items specific to the SSDI program. For example, the SSDI variable TOCn (Type of Claim) is blank for SSI-only beneficiaries, and the SSI variable MINELGRD (Date of Initial SSI Eligibility) is blank for DI-only beneficiaries. Also included are a limited number of longitudinal data items that are not well suited to inclusion in the Annual files, such as Primary Insurance Amount for SSDI beneficiaries.

## 2. Annuals

This component consists of 17 separate files, one for each year from 1994 to 2010, e.g. TRF10.1994, TRF10.1995. Most of the data are monthly for the stated year, with twelve occurrences, one for each month of the given year, except for a few identifying data items such as SSN. Each annual file is stored on tape, and each file has 24,005,236 records, the same number as the Demo component.

Longitudinal variables in the Annual files are named according to the month and year. For example, the generic variable name DUEDyymm represents "SSDI Benefit Payment Due" while DUED9805 is the specific variable name for "SSDI Benefit Payment Due – May 1998". Some longitudinal items were not available for the early years, therefore the early years or months for these variables do not exist on the annual files. One such example is EARNyymm, available only from March 1996 onwards.

Another item of note is that if data are not available in the SSA administrative files for a given participant for a given time period, variables for that particular month may be missing, blank, or zero-filled. For instance, if a beneficiary entered the system in June 1999, all variables in the TRF (e.g. SBENyymm) for that beneficiary from January 1994 to May 1999 are set to missing values.

When a beneficiary moves on the rolls, the data is handled differently, according to the program the beneficiary was enrolled in. For SSI beneficiaries, SSA sets some, but not all, of the administrative variables from the departure month onwards to missing or zero; for example, the benefit amount fields generally are set to zero or missing values, but the payment status fields (PSTAT) tend to remain filled in. For SSDI beneficiaries the situation is more complicated. When a LAF code shows a suspended status, SSA leaves some benefit amount fields filled in while setting others to 0 immediately. Termination codes have a mixed effect: a LAF code showing the beneficiary has died usually shows an immediate reduction of the benefit paid field to zero or missing, but other benefit amount fields such as the benefit due may remain filled in. Termination codes may also continue for several months before the benefit amount is set to missing or zero. For this reason, it is wise to examine the LAF code when using any of the SSDI benefit amount fields, as described in the TRF10 User's Guide, Volume 1, Chapter IV, Section H, "Benefit Amount Data".

Beneficiary records are never dropped from the TRF annual files when the beneficiary becomes ineligible due to retirement, death, or off the rolls. Records are added when new beneficiaries enroll in the SSI or SSDI programs and meet the selection criteria.

The annual files may be linked to the Demo component by SSN. Every SSN in an Annual file will have a match in the Demo file, and vice versa.

### 3. Ticket

The third component contains data related to the administration of the Ticket program derived from the DCF database, and contains data on selected SSI and SSDI participants who participated in the Ticket program at any time from January 2002 to December 2010. There are 18,550,707 records, fewer than the number on TRF.DEMO, as the Ticket program did not begin until January 2002.

Some of the Ticket variables contain onetime data, such as Ever_Active, while other variables are event-based, e.g. TKTMAILDDT1, TKTMAILDDT2, with up to 30 occurrences. This component also contains annual sets of monthly flags constructed by Mathematica to indicate such actions as whether a beneficiary has assigned their Ticket in a specific month. With each successive version of the TRF, the number of variables in the Ticket component has swelled to the point where it has become necessary to split it into multiple files. The first Ticket file is known as the Ticket Base, and includes all the variables gathered from SSA administrative data, such as Ticket mailing and assignment dates. The other files, known as the Ticket annuals, contain the annual sets of monthly flags, with one file for each year from 2002 to 2010. The Ticket files can be joined to one another or to other TRF components using the Claimant's Own Social Security Number (COSSN).

### 4. Payments

The fourth component contains data related to payments to Employment Networks (ENs). The payments are made for services provided to SSI or SSDI beneficiaries who assigned their Ticket to an EN under the Milestone-Outcome or Outcome-Only payment systems. The file includes information on payments made to ENs between October 2002 and December 2010. Records of payments under the traditional payment system are not included as they are not available from SSA administrative data for inclusion in the TRF.

The data in the TRF payments component are derived from the cumulative Payments file made available to SSA each month; individual payment records made to an EN on behalf of SSDI or SSI beneficiaries are rolled up into a single record per beneficiary. Unlike the other components, this is a small file with just 17,409 person-level observations. A record is included for a beneficiary only if SSA has made at least one milestone or outcome payment to a provider on behalf of the beneficiary.

Variables contain information about each beneficiary, including SSN, the amount of payments made to the EN for that beneficiary, the type of payment, the event that triggered the payment, the payment date, and the type of payment method, i.e. Milestones or Outcomes. Variables are named according to the month in which the payment event occurred. For example, the generic variable name M_PYMTyymm represents "Milestone payment amount" while M_PYMT0702 is the specific variable name for "Milestone payment amount – February 2007". The name of the EN and the state in which it operates are also included. SSN can be used to join records from this file to records in TRF.DEMO.

As the Ticket to Work program did not begin until January 2002, there are records for beneficiaries in TRF.DEMO with no counterpart in TRF.Payments. For instance, a beneficiary who began participation in SSDI in March 1997 but left the program in April 2001 will have a record in TRF.DEMO, but could not have a record in TRF.Payments.

## D. Structure of the Construction Guide

### 1. Workflow Charts

Workflow charts for each of the sixteen tasks needed to construct the TRF and RSA-linkable file are included in Chapter V. They precede each task table and reflect each step, illustrating the flow and manipulation of the data through the sequence of programs. JCL names for each SAS program are included in boxes.

### 2. Task Tables

The details of the sixteen construction tasks are presented in a table in Chapter V. For each task, table sections are as follows:

- Task Number and Name: identified at the top of each table
- Summary: provides an overview of the task steps.
- Data Sources: includes details on input data, including file names, format, and number of records for each step.
- SSA Contact Staff: identifies the SSA point of contact for the task.
- Output: information on the output datasets from each step, which includes file name.
- Detail Steps: information for each step expands on the summary to provide a more thorough narrative of the construction task.
- Approximate Processing Time: the approximate processing time to run each program, by step. It should only be considered an approximation as many variables unrelated to the program itself can influence processing times.
- Programs: all relevant programs for each step are listed, including JCL, SAS code, log file name, along with the name of the appendix in this document in which the code can be found.
- Program QA: briefly explains methods used by Mathematica programmers to check the accuracy of code and output. For overall quality assurance of the TRF database, please see the Testing and Validation chapter in this Guide.
- Data Documentation: provides references to external documentation, such as the relevant chapters in the SSA Program Analyst Manual, (Rand Document, May 2007).

# II. TESTING AND VALIDATION

## A. Overview & Methods

The objective in testing and validating the TRF is to identify and address any data anomalies or processing errors that may arise during the construction process. During and after construction of each version of the TRF, Mathematica Policy Research programmers conduct a series of tests to verify that data extracted from SSA administrative files closely matches the source data, and that programs used to create new variables derived from source data executed with no processing errors. Because the TRF cannot easily be directly compared to SSA administrative data, other methods relying on published SSA statistics and interim processing files have been developed over time. Comparisons between the TRF data and SSA published statistics will not match identically, since each version of the TRF is drawn from SSA administrative data sources at a specific point in time. Hence, for purposes of assessment, each of the methods described below is designed to identify significant discrepancies rather than small variations.

This chapter describes the methods used for testing and validation, and presents the results for validation of TRF10. SAS programs used by Mathematica are provided in Appendix A. These methods have been developed over several years as each version of TRF10 is constructed; validation procedures for prior versions of TRF are described in the Construction Guide associated with each version.

During construction, programmers conduct routine reviews to monitor data processing at each step. These include reviewing program output logs, checking that programs ran without interruption, and confirming that all output files are properly created, saved, and cataloged. Similarly, results from the submission of finder files described in Task 4 must be tracked and reviewed to ensure that all submitted finder records were matched to a corresponding returned record and that there were no duplicate returned records. Separately from these routine steps, there are three primary methods used to test and validate the TRF:

*1) Internal verification checks during construction:* At critical points during construction, record counts, frequencies, and summary statistics drawn from interim files are examined and compared against the previous TRF construction effort. A significant discrepancy between the version under development and the prior version may indicate that a group of records has been dropped or counted twice in error. If such a discrepancy is found, Mathematica programmers first examine the program code, output listings, and record dumps for a possible explanation, such as a code error, and if none is found, they then contact SSA staff for additional help in determining the reason for the change. Additional checks include reviewing preliminary frequencies and summary statistics, and examining printouts of small numbers of records to verify the file layout is as expected. This step is the primary way programmers are able to identify changes in source file layouts from year to year and ensure that each processing step is completed without error.

*2) Frequencies and summary statistics reviewed after construction:* Once construction is completed, programmers run frequencies and summary statistics for key demographic and program participation variables from the completed database. Frequencies are generated for discrete variables and summary statistics for the continuous variables. These are reviewed to identify any unusual patterns or values that differ significantly from what would be expected, based on detailed knowledge of prior versions of the TRF and SSA administrative data sources.

***3) Comparison of tables produced using the TRF to similar tables published by SSA:*** Mathematica selects tables produced by SSA that present data similar to data found in the TRF, for example on the characteristics and number of SSDI and SSI beneficiaries. The tables are reproduced using TRF data, and the results compared to the SSA tables. Any significant discrepancy is investigated, as it may indicate anomalies in the TRF.

## B. TRF10 Results

Our findings indicate that the TRF10 is comparable to the raw SSA administrative data and published statistics over similar timeframes. An exact comparison of the TRF to published SSA statistics is not possible, as the SSA tables are created at a different point in time than the TRF and therefore slight differences are expected. Selected validation results also indicate that TRF data may vary more from SSA published statistics in certain areas. These are described briefly below, and may be of particular interest when planning research on related subgroups, such as older beneficiaries, using the TRF.

The sections below present results of each of the three testing and validation methods described above in more technical detail. For more information on the data sources referenced, see the TRF10 User's Guide, Volume 1. Acronyms used below are defined in the Glossary, Appendix C of this document.

### 1. Internal Verification Checks During TRF Construction

The table below summarizes results of the first set of internal verification checks conducted by Mathematica as TRF10 was being constructed. For each construction Task (see Chapter V), as noted in the table, the associated record counts were reviewed. The primary check during initial phases of construction is a comparison of record counts in either source files, finder files, or interim processing files constructed by Mathematica for the current year and the previous year. As new beneficiaries participate in the SSDI or SSI programs, their records are added to SSA administrative data and, when they meet selection criteria for the TRF, are incorporated into the new version of the TRF. This growth is reflected in the comparisons of record counts, shown in the table below. For example, in Task 1, a finder file is prepared from monthly DBAD files. The monthly counts and total de-duplicated record counts from Task 1 as completed for TRF10 were compared to the corresponding counts for the same task as completed for TRF09, and results are shown in the table below. See the "Program QA" section of each Task referred to below for a more detailed description of these checks.

Significant variations in year-to-year growth are investigated, as they may indicate processing problems such as dropped or duplicated records. Similarly, for the Ticket component, monthly counts of Tickets are compared to corresponding counts for the same time frame from the prior version of TRF (e.g., December 2009 from TRF09 to December 2009 from TRF10.) These counts would be expected to show only minimal changes reflecting revisions by SSA. As shown below, the comparisons of record counts at each step showed changes as expected from TRF09 to TRF10.

| Task 1 | TRF10 | TRF09 | Change from TRF09 to TRF10 | % Change from TRF09 to TRF10 |
|---|---|---|---|---|
| Monthly DBAD records | 9.0-9.3 mill. | 8.6 to 8.9 mill. | 0.4 mill. | 4.7% |
| Total SSDI records (de-duplicated) | 10,096,339 | 9,634,602 | 461,737 | 4.8% |
| **Task 2** | | | | |
| Monthly CER 100% Field records | 6.7 to 6.99 mill. | 6.4 to 6.7 mill. | 0.2 to 0.3 mill. | 3.2 to 4.5% |
| Total SSI records (de-duplicated) | 7,560,418 | 7,241,989 | 318,429 | 4. 4% |
| **Task 3** | | | | |
| MBR Finder | 16,037,991 | 15,006,230 | 1,031,761 | 6.9% |
| SSR Finder | 13,222,702 | 12,401,743 | 820,959 | 6.6% |
| Master Finder | 24,007,160 | 22,601,160 | 1,406,000 | 6.2% |
| Linking file | 24,653,438 | 23,209,505 | 1,445,933 | 6.2% |
| **Task 5** | | | | |
| 831 & 832/833 records extracted | 65,253,460 | 60,900,223 | 4,353,237 | 7.1% |
| Concurrents | 4,601,255 | 4,198,468 | 402,787 | 9.6% |

| Task 11<br>Ticket Activity for December 2009 | Dec 2009 from TRF10 | Dec 2009 from TRF09 | Change from TRF09 to TRF10 | % Change from TRF09 to TRF10 |
|---|---|---|---|---|
| Tickets Mailed | 107,936 | 108,185 | -249 | -0.23% |
| Cumulative Tickets Mailed | 15,908,197 | 15,917,602 | -9,405 | -0.06% |
| Beneficiaries Who Have Been Mailed a Ticket, Ever Eligible | 15,785,959 | 15,779,965 | 5,994 | 0.04% |
| Beneficiaries Who Have Been Mailed a Ticket, Eligible in December 2008 | 11,617,664 | 11,619,861 | -2,197 | -0.02% |
| Beneficiaries with Ticket Assigned to EN, Outcome Only Payment | 3,374 | 3,396 | -22 | -0.65% |
| Beneficiaries with Ticket Assigned to EN, Milestones and Outcome Payment | 23,329 | 23,303 | 26 | 0.11% |

As a secondary check, frequencies for key variables in each source file were generated and examined to ensure no unexpected values were present. Printouts of small numbers of records, generally 50, were scrutinized to ensure all variables were formatted as expected. This check is especially valuable in determining whether record layouts for the input files have been modified from the prior year.

As finder files are processed as described in Task 4, data from each submission are tracked to ensure its contents match back to every finder record submitted, and that every finder record is returned only once. Sometimes the finder results come back in segments, and then Mathematica programmers create tables to track the number of finder records submitted, the name of each file that comes back, and its date.

As the Demo and Annual components are constructed (see Chapter V, Task 10 and Task 14), Mathematica programmers conduct a series of internal verification checks. Common methods of checking the Demo component include de-duplicating the file on SSN and combinations of variables such as CAN and BIC, then comparing the record counts to those from previous TRF construction efforts. Small numbers of records are printed before and after each major Demo and Annual processing step, and key variables are examined to determine whether the processing step functioned as intended. Programmers also print summary statistics to check that variable contents are as expected. For the Annual component, it is essential to check mean values for all payment variables to verify that the relationships among them are logical and that the differences from the previous construction effort are reasonable.

## 2. Frequencies and Summary Statistics

Mathematica programmers selected core variables from the Demo and 2010 Annual components of TRF that describe key demographic characteristics or program participation, then generated frequencies for discrete variables and summary statistics for the continuous variables. The results are not presented in detail in this document, for reasons of data security and privacy (small cell). These files are stored on the SSA mainframe, and examined onsite by Mathematica staff. This section therefore provides a general description of the reviews conducted for TRF10.

Mathematica programmers generated and reviewed frequencies and summary statistics, looking for unusual patterns or values. Date variables were grouped by years and large changes from one year to another were examined.

For categorical variables such as gender, we looked for unexpectedly disproportionate numbers in each category. We also compared the actual code values for these variables to values listed in SSA data documentation and looked for differences of consequence. For example, the variable EDX0912 contained values not found in the SSA documentation such as "?", "1:", and "2!", but these did not occur in large numbers. We examined the SAS code used to populate this variable in the TRF and confirmed that our SAS code merely copied the SSA data to the TRF without modification. Thus we theorized these unexpected values correctly reflect the original SSA data rather than a processing problem. We added a note to the TRF Data Dictionary alerting users that code values listed for categorical variables do not necessarily include every code value in the actual data.

For continuous variables, we looked for unexpectedly high or low values for the mean, median, and mode. Some of the benefit amount variables had extreme values, e.g. DIRPAY0912 had a minimum value of -$68,715 and a maximum value of $199,891. However, the mean and median were approximately $800, a more reasonable number, as were the numbers for the 25th, 50th, and 75th quartiles and we therefore concluded the extreme high and low values were likely due to data noise in the original SSA administrative data.

## 3. Comparison of TRF with Tables Produced by SSA

The methods described above are used to check that processing is proceeding as expected, and to check for data anomalies in key variables in the final database. The third validation method provides a broader overview of the full TRF database after construction is completed. By creating replicas of tables published by SSA using TRF data, Mathematica conducts an overall check on the accuracy and contents of the TRF.

For several reasons, we do not expect tables generated from TRF data to exactly match similar tables published by SSA. First, as noted above, as the source files for the TRF are administrative data files, data are regularly updated and it is not generally feasible to reconstruct a history of the changes. Therefore, even tables published by SSA drawn from the same data sources as the TRF may not precisely mirror TRF data, if the source files were accessed at different times. Second, the TRF is designed to contain records only for SSDI and SSI beneficiaries meeting specific selection criteria and therefore does not include information for all beneficiaries served by SSA. When replicating tables published by SSA using TRF data, Mathematica duplicates as closely as possible the criteria used to select records included in the SSA tables. However, the populations included in the TRF tables may not exactly match those in the SSA tables. In addition, there may be records in

the TRF that are not selected for inclusion in a table, and therefore are not validated under this approach. Third, in preparing tables for publication, SSA may draw on variables or administrative data files not available to contractor staff, and therefore not included in the TRF. There are a limited number of published SSA tables that can reasonably be replicated using TRF data, in part for this reason. In selecting tables to replicate, Mathematica prioritizes those which focus on key demographic or program participation characteristics that should generally be consistent between TRF data and source administrative data.

For TRF10, SSA tables were selected from two sources: the Annual Statistical Report on the Social Security Disability Insurance Program, 2010[1] and the SSI Annual Statistical Supplement, 2010[2]. Mathematica programmers developed and ran SAS programs to generate corresponding tables from the TRF database, and imported both the selected SSA tables and the SAS output for the corresponding TRF10 tables into Excel. We then generated bar graphs to facilitate comparisons of the two sets of results. Brief descriptions of the results of the comparisons are provided below, and the tables and graphs are included in Appendix B.

Overall, the results of table validation for TRF10 indicate that TRF data is generally consistent with SSA administrative records. No significant discrepancies between TRF and SSA source data were found, and we therefore conclude that TRF10 was constructed as designed. We noted two categories where there are small differences, as follows:

- Tables generated from TRF10 data show a smaller percentage of SSDI beneficiaries included in the oldest age group, which is 60-Full Retirement Age (FRA). There are several possible reasons for this. One is that Mathematica calculates age using the DOBBEST variable created from multiple data sources, while SSA's published tables use the date of birth from the MBR. In constructing TRF10, Mathematica used extracts from administrative source data created near the end of 2011, while SSA likely uses a snapshot of data pulled close to December, 2010. The difference in timing may affect the number of beneficiaries in the oldest age group who are deceased, as well as the age groups to which beneficiaries are assigned. See the TRF User's Guide for more detail about the age variables in the TRF.
- Distributions of diagnostic category groupings for SSI beneficiaries are generally similar between SSA and TRF data, with the exception of the "Other Mental Disorder," "Other," and "Unknown" categories. We theorize that these differences may occur because while the TRF contains only a single diagnosis code variable (based on DIB_DIG) for SSI beneficiaries, SSA is able to use two variables – DIB_DIB and E_DIAG – if one or the other is not populated.

While both of these differences are small in the aggregate, we note them here because they might have important implications for analysis of key subgroups within the overall population included in the TRF.

[1] http://www.ssa.gov/policy/docs/statcomps/di_asr/

[2] http://www.ssa.gov/policy/docs/statcomps/ssi_asr/

## 4. Changes to LDW Variables

The method of constructing the LDW variables (LDWCMyymm, LDWDIyymm, and LDWSSIyymm) was altered in June 2012 due to concerns about inconsistencies between LDW data patterns and the operation of SSA disability programs. These inconsistencies proved to be a result of missing data for some source variables used in the LDW variable construction process. An improved method for LDW variable construction was devised and on June 20 the new values were patched onto the TRF10 files, effectively replacing the original LDW variables, thereby smoothing the patterns. While this patch made the data more reliable and useable in TRF10 than in previous TRF versions, researchers should be aware of the change and may want to consider using the newer data to update results obtained using the prior TRF LDW. More details, including the SAS program used, are provided in Volume 2.

Please note that published research uses the phrase "Non-payment status following Suspension or Termination for Work," abbreviated "NSTW", more frequently than the phrase "Left Due to Work", abbreviated "LDW." The next iteration of the TRF will change terminology to reflect the more common practice.

# III. ASSESSING DATA NEEDS FOR TRF10

## A. Overview of the Process

The first step in annual construction of each version of the TRF is to assess what, if any, changes will be made to the database to improve its overall utility. To do this, Mathematica reviews ad hoc requests for new data items made since construction of the previous TRF, conducts a survey of TRF users, and prepares recommendations for SSA regarding changes which should be adopted. The assessment process usually results in a small number of changes each year, perhaps three or four new variables or a set of related variables for a single topic area. Additions of data are highly dependent on the availability of the data and the ease of preparing it for inclusion in the TRF. Further details are provided below.

Note that a delay in the start date of TRF10 construction precluded following the full protocol to assess data needs. An abbreviated process was followed instead, as described below.

## B. Process for Assessing Data Needs

### 1. Review Ad Hoc Requests

During each construction cycle for the TRF, it often happens that researchers, either from SSA, Mathematica, or other organizations, request new variables for inclusion in the TRF. As it is generally difficult to add new variables to the TRF once construction is underway, ad hoc suggestions such as these are logged for later review during the first step of construction for the subsequent TRF database.

### 2. Survey TRF Users

At the beginning of each TRF construction cycle, Mathematica prepares to survey users to gather suggestions for possible changes to the database. We maintain an email distribution list that is used to communicate with users of the TRF, and the list is updated each year when a new construction cycle for the TRF begins. Updates generally arise from two sources: SSA and Mathematica. For the first source, Mathematica asks the SSA project director for the contact information for any new users; typically these new users are from SSA or other federal agencies. For the second source, updates are generally provided by researchers within Mathematica, such as when a new researcher or analyst joins a project that utilizes data from the TRF.

After the TRF user distribution list is updated for each TRF production cycle, it is emailed to the SSA project officer for confirmation. Also sent to the project officer is the proposed text for surveying TRF users about possible changes to the upcoming TRF. The finalized text is generally similar to the following, which was sent to TRF users in 2009 during the production cycle for TRF09:

"Greetings – you are receiving this message because you are a member of the user group for the Ticket Research File (TRF), a database built by Mathematica from SSA administrative files for the purpose of studying issues related to SSA disability insurance programs.

We are beginning the work to update the database to incorporate data from 2009. We will add records for new beneficiaries who entered the SSDI or SSI rolls during 2009, and will also extend the historical data for beneficiaries already in the TRF to include data up through December 2009.

Before we begin the database update process, we like to check in with TRF users to determine if there are additional administrative variables that could be useful to researchers working with data on disabilities. To that end I am attaching a list of variables in the current version of the TRF. If you know of additional SSA administrative variables that are not yet in the TRF and that would be a useful addition, please let me know so that we can assess the feasibility of adding that data to the next version of the TRF. For example, we plan to add variables that will capture the one-time $250 payment made to SSI beneficiaries in May 2009 as part of the American Recovery and Reinvestment Act (ARRA).

I would appreciate having your feedback by COB Wednesday February 24.

Attached is a list of variables in the current version of the file that was constructed in 2009 and contains data on SSDI and SSI beneficiaries from 1996 through December 2009."

## 3. Timeline

In determining which changes may be feasible and the process that will be used to incorporate new variables into the database, it is important to consider which TRF data source contains the relevant data. Because different data sources are processed at different periods during the TRF construction cycle, and because they require different steps to process, Mathematica must determine which requests will be accommodated at varying points during the year. Below is information about the timing for using select SSA data sources during TRF construction.

- **DBAD** – the twelve DBAD files used to add new SSDI beneficiaries to the TRF are assembled in January. Therefore any requests for new data from the DBAD files must be considered as early as possible in the production cycle.
- **CER 100% Field** – the twelve CER 100% Field files used to add new SSI beneficiaries to the TRF are also assembled in January. Therefore any requests for new data from these files must be considered as early as possible in the production cycle.
- **MBR** – Mathematica submits the MBR finder files to SSA in February. Because of the size and complexity of the MBR data, SSA follows a two-step process, including a custom extract, to refine the volume of data selected for TRF purposes. In the first step, Mathematica creates a finder file of SSN's from two sources: 1) the twelve DBAD files for the new year is being added to the TRF and 2) all SSDI SSNs already in TRF. The finder file is submitted to SSA, and SSA programmers extract all records from the MBR associated with those SSN's. The first step of the MBR extract results in files that contain all MBR variables (possibly as many as 10,000 variables) for each SSN contained in the finder file. Next SSA programmers use a custom program to narrow down the first-stage extracts so they contain only the variables needed for TRF construction purposes. Therefore, if Mathematica intends to request additional variables for records selected from the MBR, SSA programmers must modify the custom program to include those variables, and Mathematica must request these modifications from SSA before the second stage begins. This is best done early, ideally when the finder request is first submitted in

February, although there is some leeway and it is possible to submit the requests for the custom modifications a little later.

- **SSR –** for this data, a custom extract is not required because the finder file is used to pull data from the SSI Longitudinal File. The SSI Longitudinal file is a subset extract of the SSR, and does not contain every variable that is in the SSR. In a preliminary step, Mathematica creates a finder file of SSN's from two sources: 1) the twelve CER 100% Field files for the new year that is being added to the TRF and 2) all SSI SSNs already in the TRF. The finder file is submitted to SSA. When data are pulled from the SSI Longitudinal File in response to Mathematica's finder file, all variables are pulled for each record requested by Mathematica. Mathematica does not load every variable into the TRF. However, if additional variables are required, Mathematica can access them directly. This process does not require SSA to change any code to accommodate the request for additional variables, as must be done for the MBR process.
- **831 & 832/833** – these files can be accessed directly by MPR programmers and no finder files are required. Processing, including program changes to extract new data items, can begin as soon as the finder files for the MBR and SSR extracts have been finalized. These files are generally not processed until the spring and therefore requests for new variables from them can be finalized a little later than requests for new variables from the MBR and the SSR.
- **DCF** – these files can be accessed directly by MPR programmers and no finder files are required. Processing, including program changes to extract new data items, can begin as soon as the finder files for the MBR and SSR extracts have been finalized. However, as these data files are usually not processed for TRF inclusion until the spring, requests for new data from them can be finalized a little later than requests for new variables from the MBR and the SSR.

### 4. Prepare Recommendations for SSA

Mathematica compiles a list of all changes suggested from the ad hoc process and the survey of TRF users, and presents recommendations to SSA for approval. Each suggested change is considered from a number of points of view, as described below:

- First to be considered is SSA's perspective. For example, the RSA data is not owned by SSA, and therefore any requests to add RSA data to the TRF must take into account the necessity of obtaining permission from the owners of the RSA data.
- Next to be considered is the research purpose of the TRF. The suggested additions are examined to determine whether they were appropriate and fit within the scope of the disability research likely to be conducted using the TRF. As the TRF is not intended to replicate all SSA administrative data files, any user requests that would not further the utility of the database for disability research purposes would not be considered.
- The impact on the overall size of the TRF is considered next. For example, a set of monthly variables over multiple years can add significant size to an already large database, making it more difficult and unwieldy to work with. Storage space may also be an issue.

- Finally, Mathematica evaluates the programming resources that would be needed to accomplish each change and to ensure that each set of data processing changes and the accompanying documentation changes could be accomplished with the available resources.

## 5. Resulting Changes

Following the above process, Mathematica documents the suggested changes, including a recommendation to include or exclude the suggested items, along with the reason, and provides the information to the Contracting Officer's Technical Representative (COTR). As noted above, a delay to the start of the TRF10 construction necessitated an abbreviated process to assess data needs, the results of which are below.

- **Additional variables:** HBICn (in Demo component): previous TRF versions contained only a single value for BIC, the most recent value for a beneficiary. SSA researchers requested addition of historical BIC values for the purpose of identifying the point at which an auxiliary beneficiary becomes a primary. Beginning with TRF10, the most recent BIC value (in variable BIC in the Demo component) as well as historical BIC values (in variables HBICn in the Demo component) are available.

- **Dropped variables:** Beneficiary First Name and Beneficiary Last Name (in Payments component): these fields were superfluous as first and last names for all beneficiaries are already included in the Demo component.

During construction of TRF10, additional changes were implemented. See the TRF10 User's Guide, Chapter III, Section A, for a complete list.

# IV. SYSTEMS INFORMATION

## A. Mainframe Data Processing

The TRF is constructed by programmers from Mathematica working onsite at SSA to access SSA administrative data files housed on the SSA mainframe at the Baltimore data center, and accessible via SSA facilities at the ITC building in Washington, DC. This chapter provides an overview of procedures relevant to working on the mainframe, as well as other helpful information compiled by Mathematica programmers in the course of constructing the TRF.

### 1. Location of the TRF

The TRF consists of 29 files, stored on the SSA mainframe at the Baltimore data center. All TRF components and linkable files are stored on the SSA mainframe or network. To keep the TRF file names easily accessible, particularly when files are updated, the dataset names (DSNs) of all TRF components and linkable files are provided in a "file of filenames", specifically the mainframe text file listed below.

OPDR.TG.PRD.ETTW.TRF10.FILES.NAMES.CURRENT

With the exception of the VRRMS TRF-linkable file, all TRF components and linkable files have copies stored on the SSA mainframe. The copy name is identical to the original name except that the node "TRF10P" is "TRF10C"; examples are included in the file of filenames.

**Note:** the TRF-Linkable DER file is available only to selected staff at SSA. Contact SSA for further information.

### 2. File Naming Conventions for Permanent Datasets

File names must begin with OPDR.TG.PRD.ETTW.$nnnn where "$nnnn" is the programmer's mainframe ID. Most mainframe IDs are prefixed with $, but some prefixes use # or N; use the appropriate character when creating the data set name (DSN). Mathematica programmers have been required by SSA to begin all DSNs with a first node of "OPDR", e.g. OPDR.TG.PRD.ETTW.$2358.P6453.FINALIA2.SA.V1. The entire DSN must be 44 characters or shorter.

The convention of adding "OPDR" was instituted to indicate that the files are associated with staff and contractors working within the Office of Program Development and Research (OPDR) section of SSA. Mathematica programmers include their contact information in the JCL file headers in order to allow SSA staff to check with the programmer before cancelling a job, particularly a job that may require extensive processing time.

### 3. Scratch Space

Scratch space, indicated if the first node of the file name is the user ID, is accessible by anyone and is intended for temporary storage. Files can be given a retention period in the JCL (Mathematica programmers generally use 30 days). The only difference between scratch space and regular files is that they start with the $/#/Nid. It is important to define a retention period when you allocate the dataset to prevent system rules from periodically wiping the files. In addition, files in scratch space

are accessible by anyone in the system, and therefore caution should be used in determining when it is appropriate to store a file in this manner.

## 4. TRF Finder Processing

The following suggestions, compiled by Mathematica programmers, are of special relevance for the processing of finder files and data returned from the finder process, which is critical to construction of the TRF.

Once finalized, the input files (finders) created by Mathematica programmers are stored in a manner accessible by SSA staff (Paul O'Leary). The retention period associated with each file should be 30 days. The results returned from the finder process are often stored by SSA programmers in scratch space with a short retention period, e.g. one week (although a 30 day retention period can be applied if requested.) Mathematica programmers rely on timely notification by SSA staff (Paul O'Leary) that results are available to ensure that they can be retrieved before the end of the retention period. An alternative is to arrange in advance for the SSA programmer to put the finder result directly into the relevant Mathematica programmer's scratch space, and to notify the Mathematica programmer directly. Generally, SSA programmers keep a backup of the files.

## 5. Data archive and backup

Nightly file backups are performed by SSA staff. However, if files are not accessed for a period of 30 days, they are archived. They can be retrieved after archiving by using HRECALL. Files will be deleted once they reach five years from the date of creation, regardless of when they were last accessed. Once files have been deleted, they cannot be retrieved as archived files can.

SSA also periodically performs an "unstacking" of all files, meaning that as tape data are transferred to backup tapes many related data files may be put on one big sequential tape. Once this is done, if a programmer wishes to access more than one file in the JCL code, the programmer must make new copies of the files ("unstack").

Datasets kept on disk, if not accessed for several days to a week, are automatically migrated to tape or archive storage. If a job is submitted that needs a migrated data set, the job is held in the queue until the dataset is recalled. Data sets can be manually recalled prior to submitting a job. This process can take anywhere from a few minutes to as long as a day. This is recommended when making changes to program code, as it saves time and reduces the wall time needed to run the job.

## 6. Tapes

Currently, for OPDR tapes, Mathematica programmers use high volume tapes, which require special permission. These tapes can only be used for OPDR which is shared space; if Mathematica programmers write to private space then regular tapes must be used. The only difference between the types of tape is the amount of storage. Tapes are split into volumes; however, if the files are cataloged on the system, JCL code does not need to specify the serial numbers (volsers), as the file name with all its nodes is adequate.

## 7. Passwords

Users are prompted to change both mainframe and PC passwords every 30 days. Mainframe passwords can be a maximum of 8 characters, and there is no requirement for special characters. PC

password requirements vary. A user may have the same password on both systems for convenience. If a user tries to login using the mainframe password more than 30 days after their previous session, they receive a warning message that their password has expired and they are locked out. The mainframe password has to be reset by contacting the SSA help desk or available appropriate SSA staff. PC passwords can only be reset through ITC staff.

## 8. Efficient Programming Tips

The annual component of the TRF contains separate files for each year of data. When running a job that uses multiple years of the TRF annuals files, Mathematica programmers recommend setting up the job to use one annual file at a time instead of running one job that uses several annual files. For example, if a programmer needs to extract TRF data from 2002 through 2008, it is not recommended to write a SAS program the reads in the seven annual files and extracts the data from all of them. A better alternative is to write a program that extracts the data from a single annual file, and create a multi-step JCL in which each step uses a single annual file as input and runs the program. In the same JCL job, repeat the step for each annual file, i.e. specify the next annual file as input and call the SAS program. After data has been extracted from all the annual files, run another SAS program to combine the extracted data for all years into a single file.

The benefit of this approach stems from the fact that running a single SAS job that uses seven annual files will use up seven tape drives at once, and jobs that need large numbers of tape drives may be pushed to the back of the queue so that several days may pass before the job is even started. Once it does start, if something goes wrong, the entire job will be ended even if it is 90% done and it will have to be fixed and started again from the very beginning. By running each annual file as a single step, only one tape drive is needed and the job will be nearer the top of the queue and will run sooner. Once it starts running, if there is a problem in one of the steps, the job will stop at the problem step. However, any files created in the prior steps will remain intact, and once the problem is fixed, the job can be restarted at the problem step instead of right from the beginning.

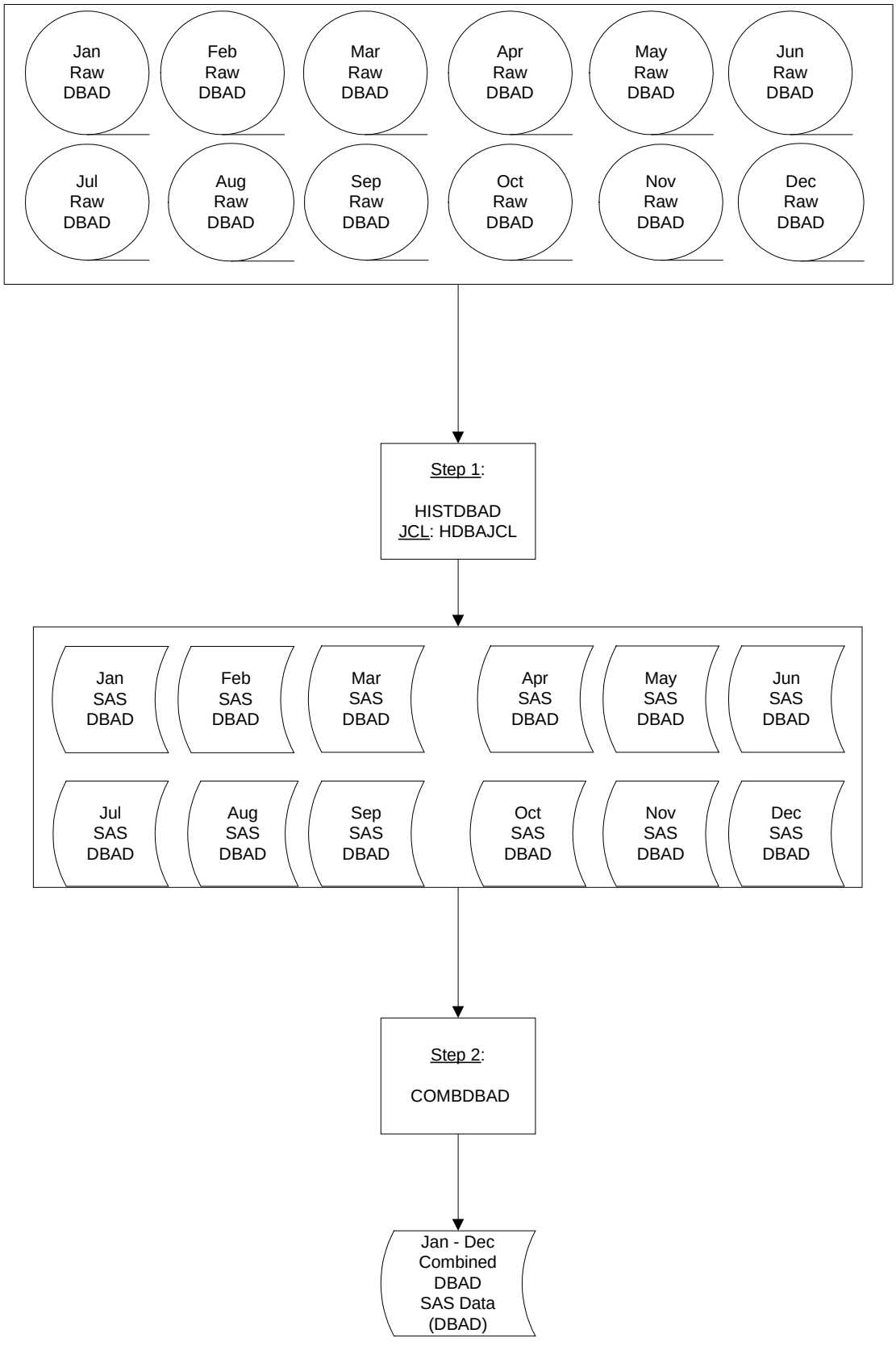
When testing new code, Mathematica programmers recommend using the 10% extract of TRF10 that was constructed in the spring of 2012 (TRF10 10% Data Mart) using the same method used by SSA to construct 10% files. The TRF contains millions of records and using the TRF10 10% Data Mart in its place can significantly improve the pace of code testing. File names for the 10% files are contained in this file on the SSA mainframe:

OPDR.TG.PRD.ETTW.TRF10.FILES.NAMES.CURRENT

When a complete version of the TRF is needed for code testing, we suggest using TRF files from a prior version (e.g. TRF09) so as to keep the current year files available for "production" jobs.

# V. CONSTRUCTION STEPS

Task 1


Jan Raw DBAD
Feb Raw DBAD
Mar Raw DBAD
Apr Raw DBAD
May Raw DBAD
Jun Raw DBAD
Jul Raw DBAD
Aug Raw DBAD
Sep Raw DBAD
Oct Raw DBAD
Nov Raw DBAD
Dec Raw DBAD
Step 1:
HISTDBAD
JCL: HDBAJCL
Jan SAS DBAD
Feb SAS DBAD
Mar SAS DBAD
Apr SAS DBAD
May SAS DBAD
Jun SAS DBAD
Jul SAS DBAD
Aug SAS DBAD
Sep SAS DBAD
Oct SAS DBAD
Nov SAS DBAD
Dec SAS DBAD
Step 2:
COMBDBAD
Jan - Dec Combined DBAD SAS Data (DBAD)

| **Task No.:** 1 | **Task Name:** Assemble & Combine DBAD Files |
|---|---|

**Summary**: The purpose of this step is to:

1. Create a finder file to submit to SSA staff for MBR data. Convert the raw SSA data into SAS format and combine all selected records from DBAD files for the selected months (e.g. for TRF10, this would be January 2010 to December 2010).

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1:<br>MTOSSI.T2.DBADMBR.Dyymm<br>(12 monthly extracts January to December)<br>(yymm = year/month of the DBAD) | | |
| Step 2:<br>OPDR.TG.PRD.ETTW.N8043.DBADyymm.SSD<br>(12 monthly extracts January to December)<br>(yymm = year/month of the DBAD) | SAS | OBS:9-9.3 million + |

**SSA Contact Staff:**

| | |
|---|---|
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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1:<br>OPDR.TG.PRD.ETTW.N8043.DBADyymm.SSD<br>(12 monthly extracts January to December)<br>(yymm = year/month of the DBAD) | SAS | OBS: 9-9.3 million + |
| Step 2:<br>OPDR.TG.PRD.ETTW.N8043.COMBDBAD.D1012.SSD | SAS | OBS: 10,096,339 |

**Detail steps:**

1. Assemble DBAD files by SAS loading 12 months of DBAD monthly extracts (January to December). The Selection criterion is based on BIC, LAF, TOC, and FRA. For records where BIC = "A", use the CAN as the SSN identifier for TRF. For records where BIC = "C" or "W", use the BOAN as the SSN identifier for TRF, but also keep CAN. De-dup on SSN/BIC to keep all possible CAN's for finders and all possible SSN/BIC combos for linking returned records.
2. Combine the 12 DBAD files into one data set. The ZIP, ZIPADD, and the BIC field have been converted into monthly variables. For example, the variables from the January DBAD file are converted into variables with January included in the name of the variables.

**Approximate processing time:**

Step 1: 4 to 5 hours per file (12 files)
Step 2: 1 hour

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL: HDBAJCL (See Appendix A.1)
SAS Code: HISTDBAD (See Appendix A.2)
Logfile: OPDR.TG.PRD.ETTW.N8043.HISTDBAD.OUT11

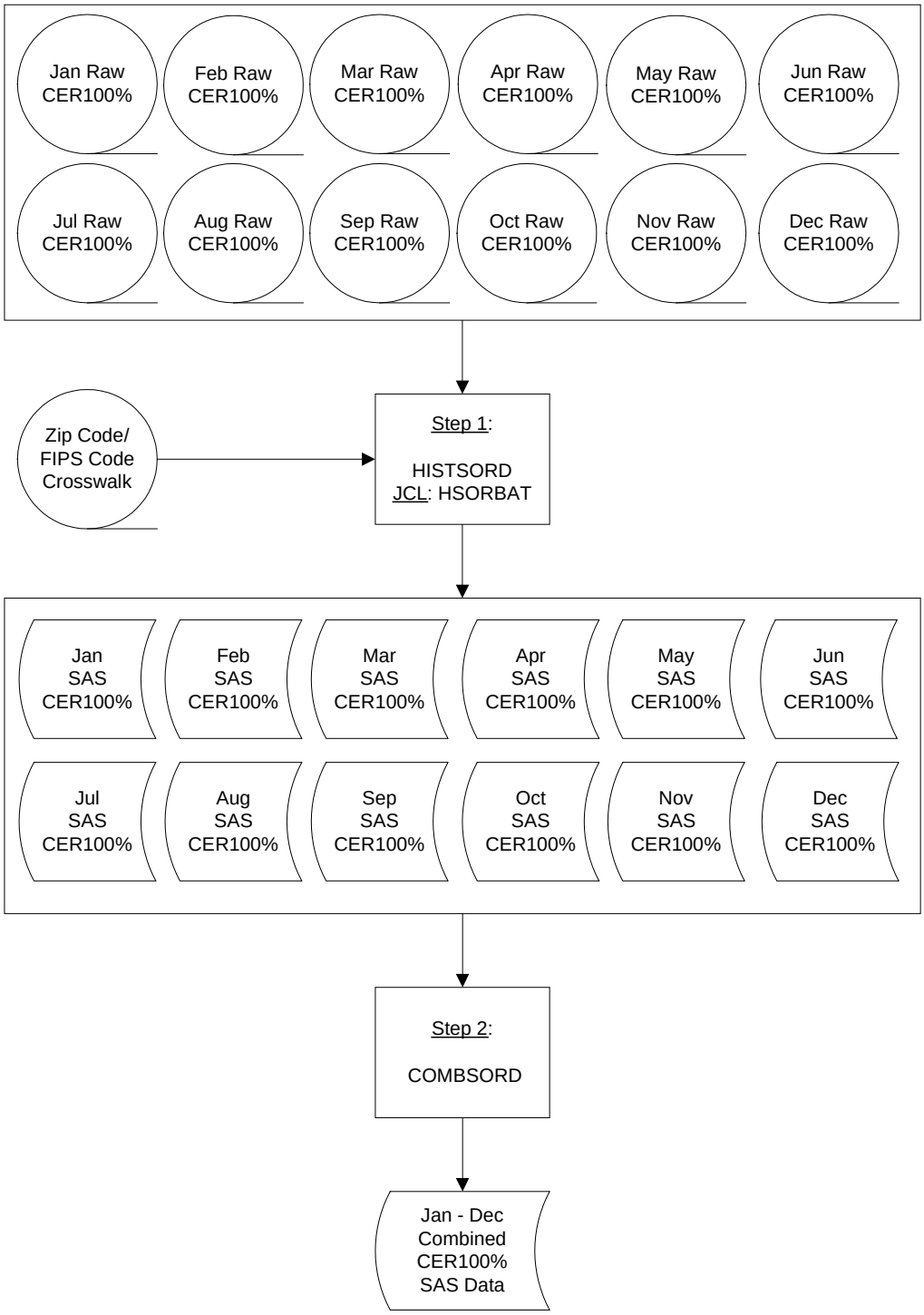
Step 2:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: COMBDBAD (See Appendix A.3)
Logfile: OPDR.TG.PRD.ETTW.N8043.COMBDBAD.OUT11

**Program QA:**
For each version of the TTW database, monthly DBAD files for the new data year are processed according to certain selection criteria. Data checks are as follows:

1. Check with SSA programming staff to determine whether the DBAD file layout has changed since the previous TRF was constructed (the most recent DBAD layout change occurred in November 2009), then modify program code accordingly.
2. Obtain record counts for the 12 DBADs loaded during the previous year's TRF construction efforts. For TRF09 the counts ranged from 8.6 to 8.9 million per DBAD. For TRF10 the counts ranged from 9 to 9.3 million.
3. After all 12 DBADs for the current TRF construction are SAS-loaded, check input and output record counts:
   i) Compare each month's input and output counts to the previous month's count, e.g. compare April to March - does each month increase in a logical or orderly fashion? A large increase or decrease for a month should be checked.
   ii) Compare the monthly pattern of the input and output counts for the new construction effort to the monthly pattern for the previous effort. For example, if a seasonal pattern is observed such as higher record counts in the winter months than in the summer; did that same seasonal pattern occur during the previous construction effort also?
4. After de-duplicating the 12 DBADs, compare the total output count to that from last year to check that the annual increase is comparable to the monthly increases. For TRF09 the de-duplicated DBAD count was 9.6 million and for TRF10 it was 10 million.
5. Run frequencies for the key variables used as selection criteria (administrative variables: BIC, TOC, LAF, and computed variables: age and retirement age. Check that values in the frequencies are consistent with values specified for selection criteria.
6. Print out small numbers of records, generally 50, and scrutinize to ensure all variables are formatted as expected, or have values as expected. This test is especially valuable in determining whether record layouts for the input files have been modified from last year's. For example, if a date variable does not look like it contains date information, possibly another variable was inserted prior to the data variable and a layout change would be expected.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 5

Task 2


Jan Raw CER100%
Feb Raw CER100%
Mar Raw CER100%
Apr Raw CER100%
May Raw CER100%
Jun Raw CER100%
Jul Raw CER100%
Aug Raw CER100%
Sep Raw CER100%
Oct Raw CER100%
Nov Raw CER100%
Dec Raw CER100%
Zip Code/ FIPS Code Crosswalk
Step 1:
HISTSORD
JCL: HSORBAT
Jan SAS CER100%
Feb SAS CER100%
Mar SAS CER100%
Apr SAS CER100%
May SAS CER100%
Jun SAS CER100%
Jul SAS CER100%
Aug SAS CER100%
Sep SAS CER100%
Oct SAS CER100%
Nov SAS CER100%
Dec SAS CER100%
Step 2:
COMBSORD
Jan - Dec Combined CER100% SAS Data

| **Task No.:** 2 | **Task Name:** Assemble & Combine CER 100% Files |
|---|---|

**Summary**: The purpose of this step is to:

1. Create a finder file to submit to SSA staff for SSI longitudinal data. Convert the raw SSA data to SAS format, and combine all selected records from CER 100% files for the selected months (e.g. for TRF10, this would be January 2010 to December 2010) to create a finder file.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| MTOSSI.CER100.FIELD.Dyymm<br>(January through December monthly extracts)<br>(yymm = year/month of the SORD) | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.N8043.SORDyymm.SSD<br>(January through December monthly extracts)<br>(yymm = year/month of the SORD) | SAS | OBS: 6.7-6.99 million+ |

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| Email: Paul.OLeary@ssa.gov | Email: Elaine.Gilby@ssa.gov |

| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N8043.SORDyymm.SSD<br>(January through December monthly extracts)<br>(yymm = year/month of the SORD) | SAS | OBS: 6.7-6.99 million+ |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.N8043.COMBSORD.D10912.SSD | SAS | OBS: 7,560,418 |

**Detail steps:**

1. Assemble 100% CER files by SAS loading 12 months of CER 100% file monthly extracts (January to December) and selecting records based on PSTAT, MFT, Denial Code, and age. As each SSI record is listed under the beneficiary's own SSN (PAN), use PAN as the SSN identifier for TRF. Read in the crosswalk for zip codes & FIPS codes. The crosswalk file is publicly available on the Internet. Mathematica uses a version stored on the Mathematica network in the original Excel format, and the file is then processed at Mathematica to convert it to SAS. The SAS file is converted to a flat (text) file, which is then brought to SSA and uploaded to the SSA mainframe.
2. Combine the 12 CER 100% files into one dataset. The HUN field and selected variables have been converted into monthly variables.

**Approximate processing time:**

Step 1: 4 to 5 hours per file (12 files)
Step 2: 1 hour

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL: HSORBAT (See Appendix A.4)
SAS Code: HISTSORD (See Appendix A.5)
Logfile: OPDR.TG.PRD.ETTW.N8043.HISTSORD.OUT11

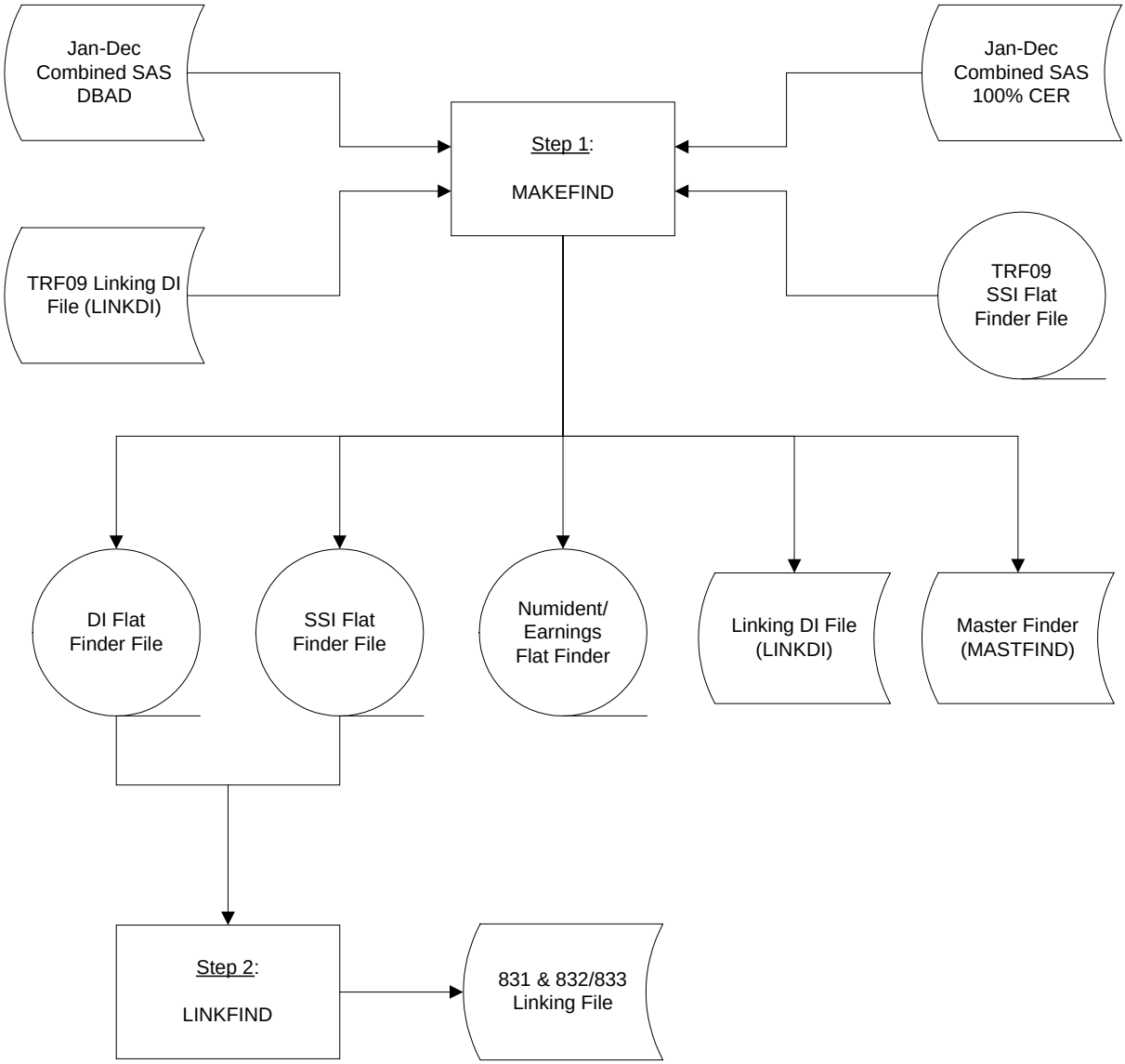
Step 2:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: COMBSORD (See Appendix A.6)
Logfile: OPDR.TG.PRD.ETTW.N8043.COMBSORD.OUT11

**Program QA:**
For each version of the TTW database, monthly CER 100% files for the new data year are processed according to certain selection criteria. Data checks are as follows:

1. Check with SSA programming staff to determine whether the SORD file layout has changed since the previous TRF was constructed, then modify program code accordingly.
2. Obtain record counts for the 12 SORD loaded during the previous year's TRF construction efforts. For TRF09 the counts ranged from 6.4 to 6.7 million per CER 100% file and for TRF10, from 6.7 to 6.99 million.
3. After all 12 CER 100% field files for the current TRF construction are SAS-loaded, check input and output record counts:
   - **i)** Compare each month's input and output counts to the previous month's count, e.g. compare April to March - does each month increase in a logical or orderly fashion? A large increase or decrease for a month should be checked.
   - **ii)** Compare the monthly pattern of the input and output counts for the new construction effort to the monthly pattern for the previous effort. For example, if a seasonal pattern is observed such as higher record counts in the winter months than in the summer, did that same seasonal pattern occur during the previous construction effort also?
4. After de-duplicating the 12 CER 100% files, compare the total output count to that from last year to check that the annual increase is comparable to the monthly increases. For TRF09 the total de-duplicated CER 100% files count was 7.2 million and for TRF10 it was 7.5 million.
5. Run frequencies for the key variables used as selection criteria (administrative variables: CPST, MFT, DENCDE, and computed variables: age and retirement age. Check that values in the frequencies are consistent with values specified for selection criteria.
6. Print out small numbers of records, generally 50, and scrutinize to ensure all variables are formatted as expected, or have values as expected. This test is especially valuable in determining whether record layouts for the input files have been modified from last year's. For example, if a date variable does not look like it contains date information, possibly another variable was inserted prior to the data variable and a layout change would be expected.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 6

Task 3


Jan-Dec Combined SAS DBAD
Jan-Dec Combined SAS 100% CER
Step 1:
MAKEFIND
TRF09 Linking DI File (LINKDI)
TRF09 SSI Flat Finder File
DI Flat Finder File
SSI Flat Finder File
Numident/ Earnings Flat Finder
Linking DI File (LINKDI)
Master Finder (MASTFIND)
Step 2:
LINKFIND
831 & 832/833 Linking File

| **Task No.:** 3 | **Task Name:** Create Finders |
|---|---|

**Summary**: The purpose of this step is to:

1. Combine the lists of CANs, BOANs, and PANs compiled from the DBAD and CER 100% Field files data with the SSN's from the previous TRF version to build a finder of all SSN's for inclusion in the new database. Then create SSI Flat Finder, DI Flat Finder, the Numident/Earnings Flat Finder, the Linking DI File, and the Master Finder.
2. Create linking file for subsetting 831-833 records.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N8043.COMBDBAD.D1012.SSD | SAS | OBS: 10,096,339 |
| OPDR.TG.PRD.ETTW.N8043.COMBSORD.D1012.SSD | SAS | OBS: 7,560,418 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D0912.SSD | SAS | OBS: 15,445,541 |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D0912.FLAT | Text | OBS: 12,401,743 |
| | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.N8043.T2FIND.D1012.FLAT | Text | OBS: 16,037,991 |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | OBS: 13,222,702 |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | OBS: 13,222,702 |
| OPDR.TG.PRD.ETTW.N8043.T2FIND.D1012.FLAT | Text | OBS: 16,037,991 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,523,915 |
| OPDR.TG.PRD.ETTW.N8043.MASTFIND.D1012.FLAT | Text | OBS: 24,007,160 |
| OPDR.TG.PRD.ETTW.N8043.MASTFIND.D1012.SSD | SAS | OBS: 24,007,160 |
| | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.$2358.LINKFIND.D1012.SSD | SAS | OBS: 24,653,438 |

**Detail steps:**

1a. Create finder files for SSI and DI as well as a reference file for DI to link CAN's to SSN's by BIC (Linking DI file). For the SSI Flat Finder, provide the list of PANs to SSA staff, who pull corresponding data from the SSI longitudinal file. For the DI Flat Finder, provided the list of CANs to SSA staff, who pull corresponding DI data.

1b. Create a Master Finder for Numident and Earnings data to obtain earnings data for 1990-2010 from the SER, and date of death data from the Numident.

1c. The 2009 finder and linking files include all the cases in the TTW Demo file so we use them as the base files to which we add the new 100% CER file and DBAD data from 2010.

2. Create linking file to pull records from the 831&832/833 files. The file will contain CAN's for T2 and SSN's from T16. This list is matched to identifiers in the 831 & 832/833 file to select the appropriate records.

**Approximate processing time:**
Step 1: 2 hours
Step 2: 6 minutes

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: MAKEFIND (See Appendix A.7)
Logfile: OPDR.TG.PRD.ETTW.N8043.MAKEFIND.OUT11

Step 2:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL/SAS Code: LINKFIND (See Appendix A.8)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.LINKFIND

**Program QA:**

1. Compare total record counts from the current year finder file (MBR, SSR, or Master Finder used for DER and Numident) to total record count from the corresponding finder for the prior TRF construction. The year-to-year increase should match the expected increase due to new beneficiaries (generally 5-7%).
2. The MBR finder increase should be similar to the total DBAD increase. For TRF09 the count was 15 million and for TRF10, 16 million.
3. The SSR finder increase should be similar to the total CER 100% Field file increase. For TRF09 the count was 12.4 million and for TRF10 13.2 million.
4. The Master Finder increase should be between the DBAD and CER 100% files total increases. For TRF09 the count was 22.6 million and for TRF10 24 million.

**Data Documentation:** N/A

| **Task No.:** 4 | **Task Name:** Submit Finders |
|---|---|

**Summary**: The purpose of this step is to:

1. Submit the following finder files to SSA: SSI Flat Finder, DI Flat Finder, Numident/Earnings Flat Finder, and the Linking DI file.
2. Store returned data to ensure accessibility for processing.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | OBS: 13,222,702 |
| OPDR.TG.PRD.ETTW.N8043.T2FIND.D1012.FLAT | Text | OBS: 16,037,991 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,523,915 |
| OPDR.TG.PRD.ETTW.N8043.MASTFIND.D1012.FLAT | Text | OBS: 24,007,160 |
| OPDR.TG.PRD.ETTW.N8043.MASTFIND.D1012.SSD | SAS | OBS: 24,007,160 |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| N/A | | |

**Detail steps:**

**1a.** SSI Flat Finder: This is a text file of SSN's stored on the mainframe. Mathematica notifies SSA (Paul O'Leary) that the finder is ready, and Paul notifies relevant SSA staff. SSA pulls all data in sections of one million records each (12 sections were required for TRF10.) Data are returned over a time period of approximately 2-3 weeks.

**1b.** DI Flat Finder: This is a text file on the mainframe. Mathematica notifies SSA (Paul O'Leary) that the finder is ready, and then prepares a custom extract for TRF. In addition, SSA pulls PHUS payment data from a separate section of the MBR and adds that data to the returned files. The data are returned in 3-4 segments at one time. Raw data files are stored on the mainframe in a location accessible to Mathematica.

**1c.** Numident: Mathematica creates a master file consisting of 20+million SSN's (BOAN's) for everyone who has ever been in the TRF database by looking at prior year finder files. Data are returned from this finder in sections corresponding to one million finder records each (the maximum that SSA can process at a time.) Because more than one records may be associated with an SSN in the finder, there may be 3 million records in a returned data file corresponding to one million records in the finder.

**2a.** SSI Flat Finder: SSA staff email Mathematica, cc: Paul O'Leary, to notify Mathematica of returned data. These files are normally stored with an expiration of 30 days. As soon as Mathematica is notified that the files are ready, Mathematica staff copy the files to Mathematica space on the mainframe.

**2b.** DI Flat Finder: SSA staff email Mathematica, cc: Paul O'Leary, to notify Mathematica of returned data. These files are normally stored with an expiration of 30 days. As soon as Mathematica is notified that the files are ready, Mathematica staff copy the files to Mathematica space on the mainframe.

**2c.** Numident: The files are normally stored with an expiration of 10 days. As soon as Mathematica is notified that a file is ready, Mathematica staff copy the file to Mathematica space on the mainframe.

**Approximate processing time:**
N/A

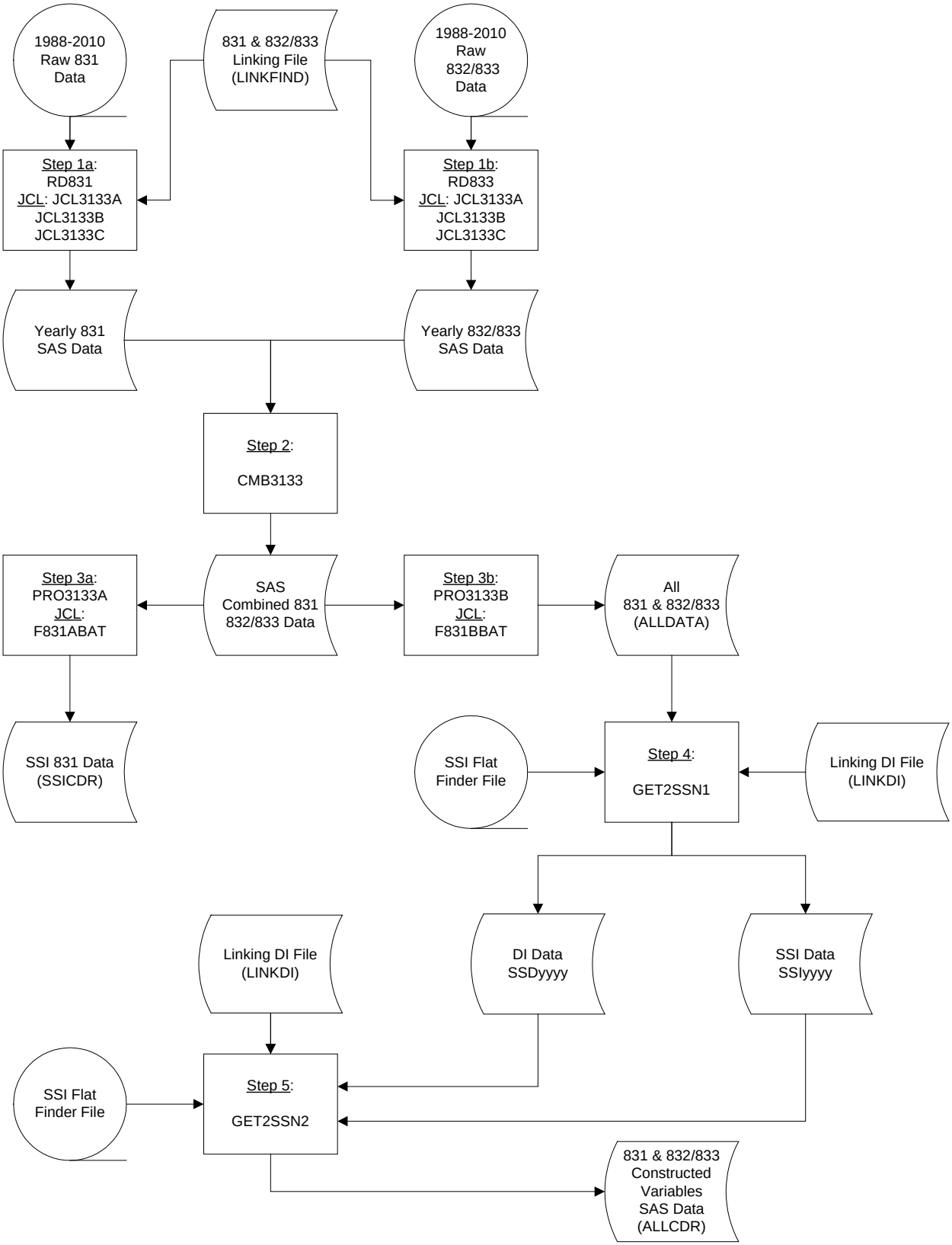
**Programs:**
N/A

**Program QA:**

1. Generally the finder results are processed a million records at a time and all found records are returned.
2. The MBR finder process returns all records associated with the submitted CAN, including all dependent records. The records are returned in several segments. Check that each segment contains records unique to that segment to guard against duplicate finder returns. Check the total number of records returned against the number returned in the previous TRF. Check the combined file to ensure that all or most of the finder records were returned.
3. The SSI finder process proceeds 1,000,000 records at a time returning all records associated with the finder SSN's. Multiple records for each submitted SSN may be returned reflecting multiple periods of eligibility. Check that there is a reasonable number of records (approximately 3,000,000) returned for each million processed.
4. The Numident finder is processed 1,000,000 records at a time. Multiple records may be returned for a beneficiary. Check the first and last SSN in each segment to ensure that all segments have been returned with no duplicates among them and no missing series of SSN's. When each segment has been collapsed into 1 record for a beneficiary, check that the de-duped records approximate 1,000,000.

**Data Documentation:** N/A

Task 5


1988-2010 Raw 831 Data
831 & 832/833 Linking File (LINKFIND)
1988-2010 Raw 832/833 Data
Step 1a: RD831 JCL: JCL3133A JCL3133B JCL3133C
Step 1b: RD833 JCL: JCL3133A JCL3133B JCL3133C
Yearly 831 SAS Data
Yearly 832/833 SAS Data
Step 2: CMB3133
Step 3a: PRO3133A JCL: F831ABAT
SAS Combined 831 832/833 Data
Step 3b: PRO3133B JCL: F831BBAT
All 831 & 832/833 (ALLDATA)
SSI 831 Data (SSICDR)
SSI Flat Finder File
Step 4: GET2SSN1
Linking DI File (LINKDI)
Linking DI File (LINKDI)
DI Data SSDyyyy
SSI Data SSIyyyy
SSI Flat Finder File
Step 5: GET2SSN2
831 & 832/833 Constructed Variables SAS Data (ALLCDR)

| **Task No.:** 5 | **Task Name:** Process 831 & 832/833 Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Read in and combine 831 & 832/833 data
2. Process concurrent records by both PAN and CAN. Also process DI records that use CAN/BIC as identifier, using the combined file of CANs and PANs created earlier. Build historical variables for disability adjudication, diagnosis codes, MIE indicators, and levels of education, and set those aside for adding to the Annual files.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.$2358.LINKFIND.D1012.SSD | SAS | OBS: 24,653,438 |
| AIS.F5750DDB.UNI831.CYyyyy<br>(yyyy = year of the 831)<br>(23 yearly extracts from 1988 through 2010) | Text | |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.$2358.LINKFIND.D1012.SSD | SAS | OBS: 24,653,438 |
| AIS.F5750DDB.UNI833.CYyyyy<br>(yyyy = year of the 832/833)<br>(23 yearly extracts from 1988 through 2010) | Text | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10.P831.Yyyyy.SSD | SAS | |
| OPDR.TG.PRD.ETTW.$2358.TRF10.P833.Yyyyy.SSD | SAS | |
| Step 3a: | | |
| OPDR.TG.PRD.ETTW.$2358.CMB3133.Y2010.SSD | SAS | OBS: 65,253,460 |
| Step 3b: | | |
| OPDR.TG.PRD.ETTW.$2358.CMB3133.Y2010.SSD | SAS | OBS: 65,253,460 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ALLCDR.SA.V1 | SAS | OBS: 23,593,292 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,523,915 |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | OBS: 13,222,702 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.$2358.ALLCDR1.SSI10.SA | SAS | OBS: 14,401,031 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,523,915 |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | OBS: 13,222,702 |
| OPDR.TG.PRD.ETTW.$2358.ALLCDR1.SSD10.SA | SAS | OBS: 16,824,615 |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10.P831.Yyyyy.SSD<br>(yyyy = year of the 831)<br>(23 yearly extracts from 1988 through 2010) | SAS | |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10.P833.Yyyyy.SSD<br>(yyyy = year of the 832/833)<br>(23 yearly extracts from 1988 through 2010) | SAS | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.$2358.CMB3133.Y2010.SSD | SAS | OBS: 65,253,460 |
| Step 3a: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.SSICDR.SSD | SAS | OBS: 14,388,820 |
| Step 3b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ALLCDR.SA.V1 | SAS | OBS: 23,593,292 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.$2358.ALLCDR1.SSI10.SA | SAS | OBS: 14,401,031 |
| OPDR.TG.PRD.ETTW.$2358.ALLCDR1.SSD10.SA | SAS | OBS: 16,824,615 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10P.ALLCDR.SA.V1 | SAS | OBS: 20,904,646 |

**Detail steps:**

1a. Create files using the 831 & 832/833 linking file from Task 3. RD831 reads in raw data and uses the 831 & 832/833 linking file from Task 3 to select records to include in the SAS output file.

1b. RD833 reads in raw data, which contains 832/833 information in one file named 833, and uses the 831 & 832/833 linking file from Task 3 to select records to include in the SAS output file.

2. In order to combine 831 & 832/833 files over years, set the 831 & 832/833 SAS files in the order of the data of decisions.

3a. The Pro3133A & B files are too large to process all at once, so Pro3133A reads in data for the SSI cases so they can be used later.

3b. The program Pro3133B takes all the CDR records and flattens them into one record per beneficiary. Variables with a yymm suffix are constructed for the annuals. Other variables associated with each CDR are constructed for the DEMO. These variables are numbered according to the chronological sequence of CDR records.

4. Program GET2SSN1 divides the records by SSI and DI and outputs them into separate files.

5. The program GET2SSN2 retrieves SSN and DI files, subsets the data by flagging appropriate records (as defined by the finders), and merges the data together to eliminate erroneous or irrelevant records.

**Approximate processing time:**
Step 1a: 15 minutes per file (23 files)
Step 1b: 5 minutes per file (23 files)
Step 2: 24 minutes
Step 3a: 14 hours 11 minutes
Step 3b: 18 hours 9 minutes
Step 4: 4 hours 46 minutes
Step 5: 3 – 4 hours

**Programs:**
Step 1a:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL: (JCL files for step 1a and 1b are the same)
JCL31331 (See Appendix A.9)
JCL3133A (See Appendix A.10)
JCL3133B (See Appendix A.11)
JCL3133C (See Appendix A.12)
SAS Code: RD831 (See Appendix A.13)
Logfile: (Log files for step 1a and 1b are the same)
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL31331
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL3133A
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL3133B
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL3133C

Step 1b:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL: (JCL files for step 1a and 1b are the same)
JCL31331 (See Appendix A.9)
JCL3133A (See Appendix A.10)
JCL3133B (See Appendix A.11)
JCL3133C (See Appendix A.12)
SAS Code: RD833 (See Appendix A.14)
Logfile: (Log files for step 1a and 1b are the same)
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL31331
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL3133A
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL3133B
OPDR.TG.PRD.ETTW.$2358.TRF10.P831.JCL3133C

Step 2:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL/SAS Code: CMB3133 (See Appendix A.15)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.CMB3133

Step 3a:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL: F831ABAT (See Appendix A.16)
SAS Code: PRO3133A (See Appendix A.17)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRO3133A

Step 3b:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL: F831BBAT (See Appendix A.18)
SAS Code: PRO3133B (See Appendix A.19)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRO3133B

Step 4:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.PRDLIB
JCL/SAS Code: GET2SSN1 (See Appendix A.20)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.P831.GET2SSN1

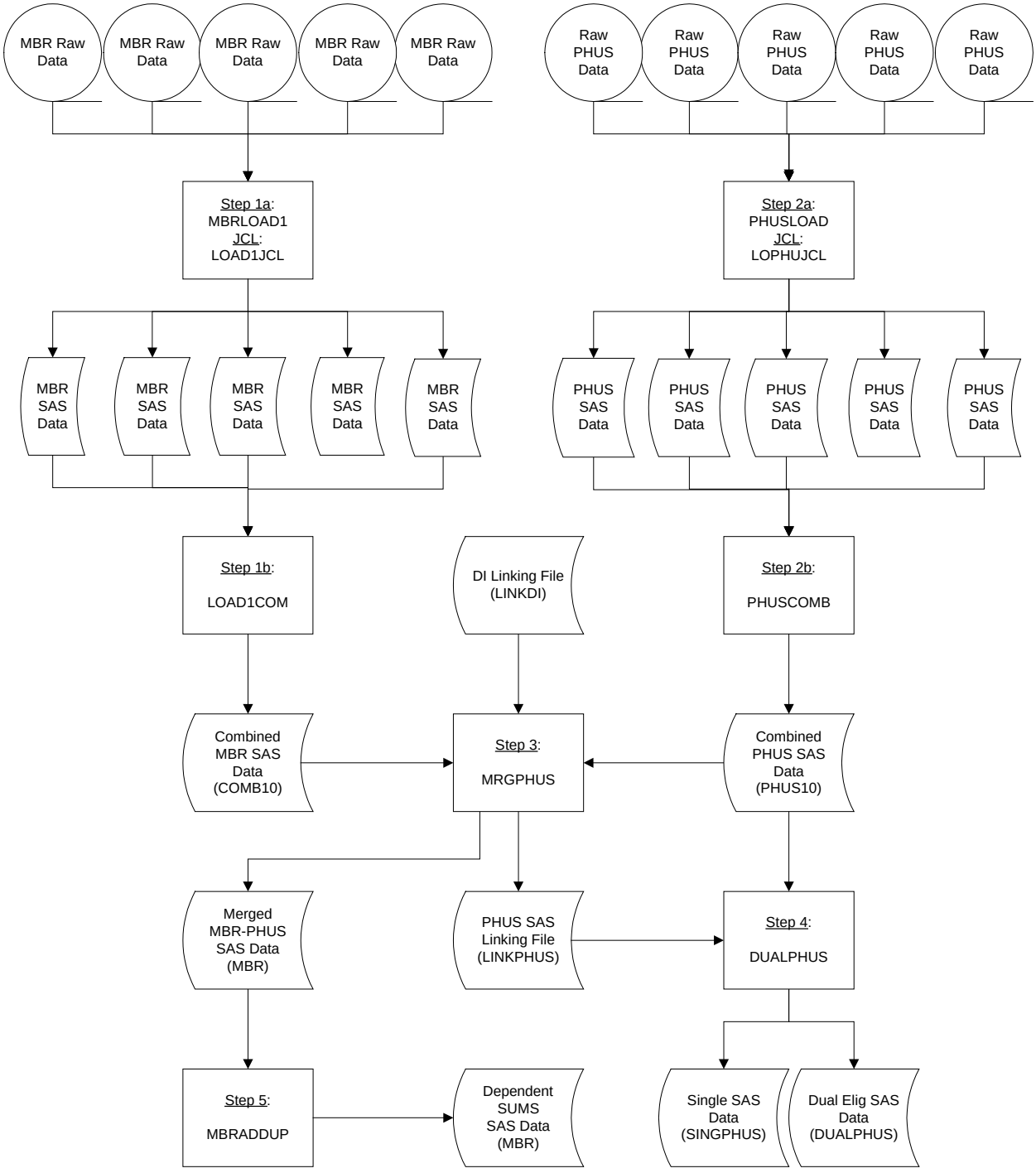
Step 5:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: GET2SSN2 (See Appendix A.21)
Logfile: OPDR.TG.PRD.ETTW.N8043.GET2SSN2.OUT11

**Program QA:**

1. The 831 & 832/833 files contain multiple records for each SSN or CAN so the number of records extracted is high.
2. Check the number of de-duplicated records in the linking file that is output and compare to previous years' counts. For TRF09 it contained 23.2 million total records, 4+ million of which represented concurrent beneficiaries. For TRF10 the linking file contained 24.6 million records including 4.6+ million concurrents.
3. Multiple 831 & 832/833 returned records are arranged in date-order for each SSN or CAN. Carefully scrutinize printouts of small numbers of records to ensure event dates have been processed appropriately.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 9

Task 6


MBR Raw Data
MBR Raw Data
MBR Raw Data
MBR Raw Data
MBR Raw Data
Raw PHUS Data
Raw PHUS Data
Raw PHUS Data
Raw PHUS Data
Raw PHUS Data
Step 1a: MBRLOAD1 JCL: LOAD1JCL
Step 2a: PHUSLOAD JCL: LOPHUJCL
MBR SAS Data
MBR SAS Data
MBR SAS Data
MBR SAS Data
MBR SAS Data
PHUS SAS Data
PHUS SAS Data
PHUS SAS Data
PHUS SAS Data
PHUS SAS Data
Step 1b: LOAD1COM
DI Linking File (LINKDI)
Step 2b: PHUSCOMB
Combined MBR SAS Data (COMB10)
Step 3: MRGPHUS
Combined PHUS SAS Data (PHUS10)
Merged MBR-PHUS SAS Data (MBR)
PHUS SAS Linking File (LINKPHUS)
Step 4: DUALPHUS
Step 5: MBRADDUP
Dependent SUMS SAS Data (MBR)
Single SAS Data (SINGPHUS)
Dual Elig SAS Data (DUALPHUS)

| **Task No.:** 6 | **Task Name:** Process MBR Data: Part A |
|---|---|

**Summary**: The purpose of this step is to:

1. Read in MBR raw data in order to compute dependent variable amounts and the number of dependents.
2. The MBR process is done in two steps. The first step is to order the records so that the auxiliary payment amounts (PAYO), the auxiliary due amounts (DUEO), and the number of dependents (DPEN) can be computed and added to the records for Primary Beneficiaries.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR1.R110920 | Text | OBS: 6,127,832 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR2.R110920 | Text | OBS: 6,121,768 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR3.R110920 | Text | OBS: 6,123,621 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR4.R110920 | Text | OBS: 6,124,562 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR5.R110920 | Text | OBS: 6,123,900 |
| | | |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR1 | SAS | OBS: 6,127,832 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR2 | SAS | OBS: 6,121,768 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR3 | SAS | OBS: 6,123,621 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR4 | SAS | OBS: 6,124,562 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR5 | SAS | OBS: 6,123,900 |
| | | |
| Step 2a: Raw PHUS Data | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUS1.R110920 | Text | OBS: 6,081,061 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUS2.R110920 | Text | OBS: 6,075,435 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUS3.R110920 | Text | OBS: 6,076,840 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUS4.R110920 | Text | OBS: 6,077,898 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUS5.R110920 | Text | OBS: 6,077,336 |
| | | |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE1 | SAS | OBS: 6,081,061 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE2 | SAS | OBS: 6,075,435 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE3 | SAS | OBS: 6,076,840 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE4 | SAS | OBS: 6,077,898 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE5 | SAS | OBS: 6,077,336 |
| | | |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.N8043.MBRLOAD1.COMB10.SSD | SAS | OBS: 28,687,679 |
| OPDR.TG.PRD.ETTW.N8043.PHUS.COMB10.SSD | SAS | OBS: 30,388,570 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,523,915 |
| | | |
| Step 4a: | | |
| OPDR.TG.PRD.ETTW.N8043.PHUSTEP1.Y2010.SSD1 | SAS | OBS: 30,112,617 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,523,915 |
| | | |
| Step 4b: | | |
| OPDR.TG.PRD.ETTW.N8043.LINKPHUS.Y2010.SSD | SAS | OBS: 16,429,183 |

| | | |
|---|---|---|
| Step 5: | | |
| OPDR.TG.PRD.ETTW.N8043.MRGPHUS.Y2010.SSD1 | SAS | OBS: 30,621,683 |
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| **Output:** | **Format:** | **Approx. # records:** |
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR1 | SAS | OBS: 6,127,832 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR2 | SAS | OBS: 6,121,768 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR3 | SAS | OBS: 6,123,621 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR4 | SAS | OBS: 6,124,562 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBRLOAD1.MBR5 | SAS | OBS: 6,123,900 |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.N8043.MBRLOAD1.COMB10.SSD | SAS | OBS: 28,687,679 |
| Step 2a: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE1 | SAS | OBS: 6,081,061 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE2 | SAS | OBS: 6,075,435 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE3 | SAS | OBS: 6,076,840 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE4 | SAS | OBS: 6,077,898 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.PHUSLOAD.FILE5 | SAS | OBS: 6,077,336 |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.N8043.PHUS.COMB10.SSD | SAS | OBS: 30,388,570 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.N8043.MRGPHUS.Y2010.SSD1 | SAS | OBS: 30,621,683 |
| OPDR.TG.PRD.ETTW.N8043.PHUSTEP1.Y2010.SSD1 | SAS | OBS: 30,112,617 |
| Step 4a: | | |
| OPDR.TG.PRD.ETTW.N8043.LINKPHUS.Y2010.SSD | SAS | OBS: 16,429,183 |
| Step 4b: | | |
| OPDR.TG.PRD.ETTW.N8043.LINKPHUS.SING10.SSD | SAS | OBS: 15,694,250 |
| OPDR.TG.PRD.ETTW.N8043.LINKPHUS.DUAL10.SSD | SAS | OBS: 359,575 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.N8043.MRGPHUS.SUMREC.Y2010 | SAS | OBS: 15,708,646 |

**Detail steps:**

**1a.** Compile the MBR raw data and save it as MBR SAS data.

**1b.** Take the five MBR SAS data sets and combine them into one combined file.

**2a.** Compile the PHUS raw data and save it as PHUS SAS data.

**2b.** Take the five PHUS SAS data sets and combine them into one combined file.

**3.** Merge the PHUS data to the MBR data output created in the programming step 1b and 2b to prepare for adding up the dependent amounts of the primaries.

**4.** The PHUS records are split into Single and Dual Eligibles.

**5.** Add the dependent amounts and the number of dependents to the auxiliary records which are attached to primary beneficiaries in the MBR14 data.

**Approximate processing time:**

Step 1a: 11 hours
Step 1b: 2 hours
Step 2a: 7 hours
Step 2b: 2 hours
Step 3: 1 day
Step 4: 4 days
Step 5: 6.5 hours

**Programs:**

Step 1a:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL: LOAD1JCL (See Appendix A.22)
SAS Code: MBRLOAD1 (See Appendix A.23)
Logfile: OPDR.TG.PRD.ETTW.N8043.MBRLOAD1.OUT11

Step 1b:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: LOAD1COM (See Appendix A.24)
Logfile: OPDR.TG.PRD.ETTW.N8043.LOAD1COM.OUT11

Step 2a:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL: LOPHUJCL (See Appendix A.25)
SAS Code: PHUSLOAD (See Appendix A.26)
Logfile: OPDR.TG.PRD.ETTW.N8043.PHUSLOAD.OUT11

Step 2b:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: PHUSCOMB (See Appendix A.27)
Logfile: OPDR.TG.PRD.ETTW.N8043.PHUSCOMB.OUT11

Step 3:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: MRGPHUS1 (See Appendix A.28)
Logfile: OPDR.TG.PRD.ETTW.N8043.MRGPHUS1.OUT11

Step 4a:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: MRGPHUS2 (See Appendix A.29)
Logfile: OPDR.TG.PRD.ETTW.N8043.MRGPHUS2.OUT11

Step 4b:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: DUALPHUS (See Appendix A.30)
Logfile: OPDR.TG.PRD.ETTW.N8043.DUALPHUS.OUT11

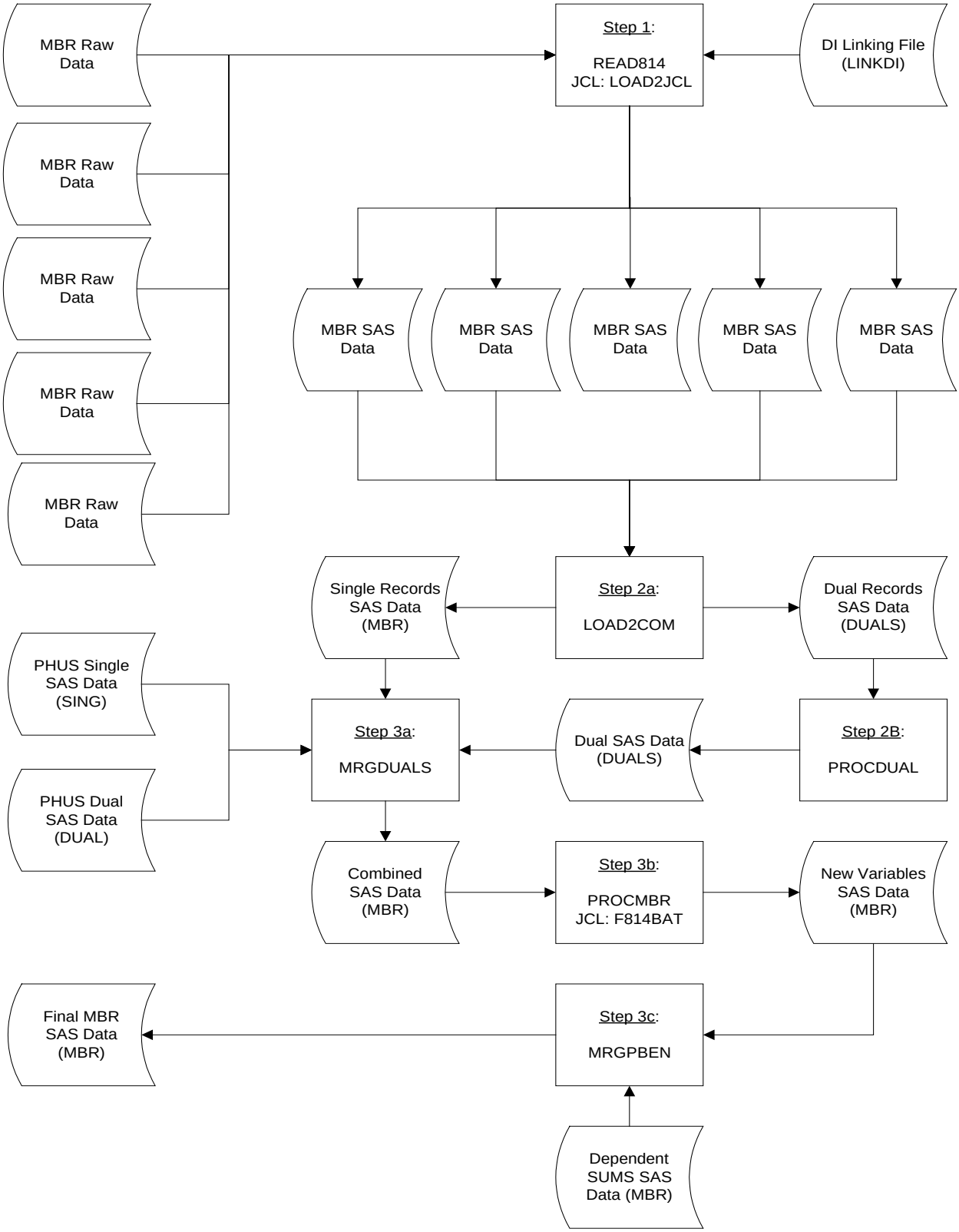
Step 5:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: MBRADDUP (See Appendix A.31)
Logfile: OPDR.TG.PRD.ETTW.N8043.MBRADDUP.OUT11

**Program QA:**

In each step individual records and record counts are scrutinized to make sure the process is working correctly. For example, all of the dependent amounts are added up and compared to the sum of the amounts seen on a data dump of each record for a primary dependent.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 5

Task 7


MBR Raw Data
MBR Raw Data
MBR Raw Data
MBR Raw Data
MBR Raw Data
Step 1:
READ814
JCL: LOAD2JCL
DI Linking File (LINKDI)
MBR SAS Data
MBR SAS Data
MBR SAS Data
MBR SAS Data
MBR SAS Data
Single Records SAS Data (MBR)
Step 2a:
LOAD2COM
Dual Records SAS Data (DUALS)
PHUS Single SAS Data (SING)
PHUS Dual SAS Data (DUAL)
Step 3a:
MRGDUALS
Dual SAS Data (DUALS)
Step 2B:
PROCDUAL
Combined SAS Data (MBR)
Step 3b:
PROCMBR
JCL: F814BAT
New Variables SAS Data (MBR)
Final MBR SAS Data (MBR)
Step 3c:
MRGPBEN
Dependent SUMS SAS Data (MBR)

| **Task No.:** 7 | **Task Name:** Process MBR Data: Part B |
|---|---|

**Summary**: The purpose of this step is to:

1. Read in MBR data keeping all variables and subset to records in the linking file.
2. Combine all records and output a file of single records, and a file of dual eligible beneficiaries (multiple records).
3. Attach the single and dual phus data to the files.
4. Process the dual eligible records and output one summary record.
5. Recombine the data, merge on the dependent amounts and output complete MBR file.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR1.R111011 | Text | OBS: 6,127,832 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,519,473 |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR2.R111011 | Text | OBS: 6,121,768 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,519,473 |
| Step 1c: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR3.R111011 | Text | OBS: 6,123,621 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,519,473 |
| Step 1d: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR4.R111011 | Text | OBS: 6,124,562 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,519,473 |
| Step 1e: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.MBR5.R111011 | Text | OBS: 6,123,900 |
| OPDR.TG.PRD.ETTW.N8043.LINKDI.D1012.SSD | SAS | OBS: 16,519,473 |
| Step 2a: | | |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR1.SSD | SAS | OBS: 3,289,682 |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR2.SSD | SAS | OBS: 3,284,961 |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR3.SSD | SAS | OBS: 3,288,164 |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR4.SSD | SAS | OBS: 3,286,228 |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR5.SSD | SAS | OBS: 3,285,454 |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.N8043.READ814.DUALS10.SSD | SAS | OBS: 744,864 |
| Step 3a: | | |
| OPDR.TG.PRD.ETTW.N8043.READ814.SINGS10.SSD | SAS | OBS: 15,689,625 |
| OPDR.TG.PRD.ETTW.N8043.PROCDUAL.DUALS10.SSD | SAS | OBS: 364,146 |
| OPDR.TG.PRD.ETTW.N8043.LINKPHUS.SING10.SSD | SAS | OBS: 15,694,250 |
| OPDR.TG.PRD.ETTW.N8043.LINKPHUS.DUAL10.SSD | SAS | OBS: 359,575 |
| Step 3b: | | |
| OPDR.TG.PRD.ETTW.N8043.READ814.COMB10.SSD | SAS | OBS: 16,053,771 |

| | | |
|---|---|---|
| Step 3c: | | |
| OPDR.TG.PRD.ETTW.N8043.MRGPHUS.SUMREC.Y2010 | SAS | OBS: 15,708,646 |
| OPDR.TG.PRD.ETTW.N8043.PROCMBR.D1012.SSD | SAS | OBS: 16,053,771 |

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| | |
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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR1.SSD | SAS | OBS: 3,289,682 |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR2.SSD | SAS | OBS: 3,284,961 |
| Step 1c: | | |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR3.SSD | SAS | OBS: 3,288,164 |
| Step 1d: | | |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR4.SSD | SAS | OBS: 3,286,228 |
| Step 1e: | | |
| OPDR.TG.PRD.ETTW.N8043.Y2011.MBR5.SSD | SAS | OBS: 3,285,454 |
| Step 2a: | | |
| OPDR.TG.PRD.ETTW.N8043.READ814.SINGS10.SSD | SAS | OBS: 15,689,625 |
| OPDR.TG.PRD.ETTW.N8043.READ814.DUALS10.SSD | SAS | OBS: 744,864 |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.N8043.PROCDUAL.DUALS10.SSD | SAS | OBS: 364,146 |
| Step 3a: | | |
| OPDR.TG.PRD.ETTW.N8043.READ814.COMB10.SSD | SAS | OBS: 16,053,771 |
| Step 3b: | | |
| OPDR.TG.PRD.ETTW.N8043.PROCMBR.D1012.SSD | SAS | OBS: 16,053,771 |
| Step 3c: | | |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |

**Detail steps:**

**1.** The MBR data was returned in several sections. The raw data was converted to SAS and subset to the records in the DI linking file.

**2a.** Combine all sections of MBR data into two output files: one file of non-duals (single records for SSN) and one file of duals (multiple records for SSN).

**2b.** Process the dual eligible records. The latest DOEC is the first indicator for selection. If the DOEC is the same on all records then the first entdate is used and the latest one is the indicator for selection. Cases where endate is the same on all records are selected according to the latest PIED1 date. Where PIED1 date is the same, the cases with BIC = A are selected. The small remainder where most of the fields are identical is deduped. The benefit fields are summed across records where the BPD field (benefit paid designator) = 1.

**3a.** Merge PHUS data to the singles and the duals records for MBR. Finally create the full dataset with all the cases and variables.

**3b.** Create additional MBR variables.

**3c.** Create final MBR data set adding the auxiliary counts and amounts.

**Approximate processing time:**

Step 1: 4 days (5 files)
Step 2a: 9 hours
Step 2b: 2 hours
Step 3a: 48 hours
Step 3b: 24 hours
Step 3c: 24 hours

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL: LOAD2JCL (See Appendix A.32)
SAS Code: READ814 (See Appendix A.33)
Logfile: OPDR.TG.PRD.ETTW.N8043.READ814.OUT11

Step 2a:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: LOAD2COM (See Appendix A.34)
Logfile: OPDR.TG.PRD.ETTW.N8043.LOAD2COM.OUT11

Step 2b:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: PROCDUAL (See Appendix A.35)
Logfile: OPDR.TG.PRD.ETTW.N8043.PROCDUAL.OUT11

Step 3a:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: MRGDUALS (See Appendix A.36)
Logfile: OPDR.TG.PRD.ETTW.N8043.MRGDUALS.OUT11

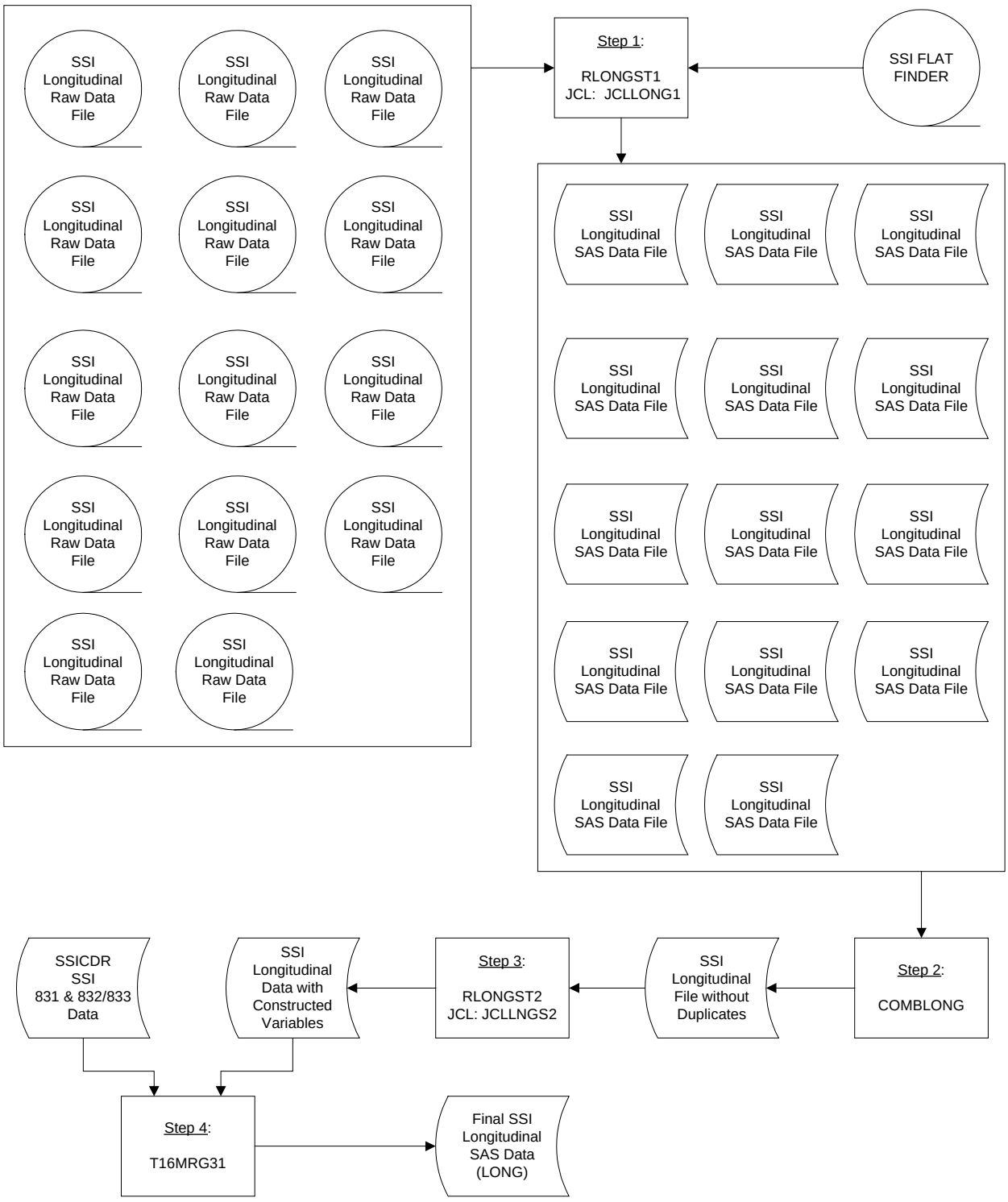
Step 3b:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL: F814BAT (See Appendix A.37)
SAS Code: PROCMBR(See Appendix A.38)
Logfile: OPDR.TG.PRD.ETTW.N8043.PROCMBR.OUT11

Step 3c:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: MRGPBEN (See Appendix A.39)
Logfile: OPDR.TG.PRD.ETTW.N8043.MRGPBEN.OUT11

**Program QA:**
The QA process in this task involves checking the frequencies and means of payment variables during each step of the task.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 5

Task 8


SSI Longitudinal Raw Data File
Step 1:
RLONGST1
JCL: JCLLONG1
SSI FLAT FINDER
SSI Longitudinal SAS Data File
Step 2:
COMBLONG
SSI Longitudinal File without Duplicates
Step 3:
RLONGST2
JCL: JCLLNGS2
SSI Longitudinal Data with Constructed Variables
SSICDR SSI 831 & 832/833 Data
Step 4:
T16MRG31
Final SSI Longitudinal SAS Data (LONG)

| **Task No.:** 8 | **Task Name:** Process SSI-LF Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Load 14 segments of SSI tape data into one file.
2. Collapse all the data to create a dataset with one record per person.
3. Merge the 831 & 832/833 variables onto the dataset.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P1D1012 | Text | OBS: 3,614,796 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P2D1012 | Text | OBS: 3,677,929 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P3D1012 | Text | OBS: 3,823,512 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P4D1012 | Text | OBS: 4,281,783 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P5D1012 | Text | OBS: 4,204,449 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P6D1012 | Text | OBS: 4,090,337 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P7D1012 | Text | OBS: 4,437,209 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P8D1012 | Text | OBS: 4,753,773 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P9D1012 | Text | OBS: 4,510,182 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P10D1012 | Text | OBS: 4,150,482 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P11D1012 | Text | OBS: 3,811,373 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P12D1012 | Text | OBS: 3,705,434 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P13D1012 | Text | OBS: 4,041,008 |
| OPDR.TG.PRD.ETTW.N8043.LONG2010.P14D1012 | Text | OBS: 815,177 |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | OBS: 13,222,702 |
| (The finder file is used with each of the 14 SSI Longitudinal raw data files.) | | |
| | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P1 | SAS | OBS: 2,447,053 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P2 | SAS | OBS: 2,452,076 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P3 | SAS | OBS: 2,493,152 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P4 | SAS | OBS: 2,718,103 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P5 | SAS | OBS: 2,709,064 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P6 | SAS | OBS: 2,610,218 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P7 | SAS | OBS: 2,755,349 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P8 | SAS | OBS: 2,869,601 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P9 | SAS | OBS: 2,769,611 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P10 | SAS | OBS: 2,652,453 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P11 | SAS | OBS: 2,579,647 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P12 | SAS | OBS: 2,644,741 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P13 | SAS | OBS: 2,396,387 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P14 | SAS | OBS: 412,238 |
| | | |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.N4671.COMBLONG.D1012.SSD | SAS | OBS: 30,125,023 |

| | | |
|---|---|---|
| Step 4: | | |
| OPDR.TG.PRD.ETTW.N4671.RLONGST2.D1012.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.SSICDR.SSD | SAS | OBS: 14,388,820 |

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| | |
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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P1 | SAS | OBS: 2,447,053 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P2 | SAS | OBS: 2,452,076 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P3 | SAS | OBS: 2,493,152 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P4 | SAS | OBS: 2,718,103 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P5 | SAS | OBS: 2,709,064 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P6 | SAS | OBS: 2,610,218 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P7 | SAS | OBS: 2,755,349 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P8 | SAS | OBS: 2,869,601 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P9 | SAS | OBS: 2,769,611 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P10 | SAS | OBS: 2,652,453 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P11 | SAS | OBS: 2,579,647 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P12 | SAS | OBS: 2,644,741 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P13 | SAS | OBS: 2,396,387 |
| OPDR.TG.PRD.ETTW.N4671.LONG2010.P14 | SAS | OBS: 412,238 |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.N4671.COMBLONG.D1012.SSD | SAS | OBS: 30,125,023 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.N4671.RLONGST2.D1012.SSD | SAS | OBS: 13,222,458 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | OBS: 13,222,458 |

**Detail steps:**

1. SAS load the 14 sections of SSI Longitudinal File returned from the finder process. Each of the 14 sections is combined with the SSI Finder created in Task 3.
2. 14 segments of SSI Longitudinal data need to be combined. Each segment is sorted by SSN and record establishment date. When the files are combined the program sets them by SSN and RCD_EST (the record establishment date). This insures that the records for a given beneficiary are grouped and sorted by the date of their appearance in the data.
3. Process the combined records which include multiple records for most beneficiaries, scanning the history fields to pick up the populated fields. Output one record for each beneficiary.
4. Merge SSI Longitudinal data with the 831 & 832/833 data.

**Approximate processing time:**
Step 1: 5 hours 40 minutes per file (14 files)
Step 2: 13 hours
Step 3: 15 hours
Step 4: 9 hours

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB10
JCL: JCLLONG1 (See Appendix A.40)
SAS Code: RLONGST1 (See Appendix A.41)
Logfile: OPDR.TG.PRD.ETTW.N4671.TRF10.SSR.RLONGST1

Step 2:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB10
JCL/SAS Code: COMBLONG (See Appendix A.42)
Logfile: OPDR.TG.PRD.ETTW.N4671.TRF10.SSR.COMBLONG

Step3:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB10
JCL: JCLLNGS2 (See Appendix A.43)
SAS Code: RLONGST2 (See Appendix A.44)
Logfile: OPDR.TG.PRD.ETTW.N4671.TRF10.SSR.RLONGST2

Step 4:
Program Library: OPDR.TG.PRD.ETTW.N8043.LIB11
JCL/SAS Code: T16MRG31 (See Appendix A.45)
Logfile: OPDR.TG.PRD.ETTW.N8043.T16MRG31.OUT11

**Program QA:**
1. Check that the increase of record counts from the previous TRF occurs in a logical fashion.
2. Scan groups of records before the records are reduced to one record to make sure the final record contains all of the data in the multiple records.
3. Check the means of the payment amounts and the frequencies of constructed variables.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 6

# Task 9

Step 1:
READNUM
JCL: NUMJCL
A file for every 1 Million Records in the Finder
NUMIDENT Raw Data File
A file for every 1 Million Records in the Finder
NUMIDENT SAS Data File SASNAME (NUMIDENT)
Step 2:
COMBNUM
Combined NUMIDENT SAS Data (NUMIDENT)

| **Task No.:** 9 | **Task Name:** Process Numident Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Get demographic information, names, dates of birth, dates of death etc.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI1.R110523 | Text | OBS: 3,105,783 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI2.R110524 | Text | OBS: 3,192,272 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI3.R110525 | Text | OBS: 3,208,800 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI4.R110526 | Text | OBS: 3,271,441 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI5.R110527 | Text | OBS: 3,118,194 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI6.R110531 | Text | OBS: 3,281,147 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI7.R110601 | Text | OBS: 3,245,814 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI8.R110602 | Text | OBS: 3,552,685 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI9.R110607 | Text | OBS: 3,749,098 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI10.R110609 | Text | OBS: 3,454,472 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI11.R110613 | Text | OBS: 3,568,634 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI12.R110615 | Text | OBS: 3,525,699 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI13.R110617 | Text | OBS: 3,253,136 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI14.R110621 | Text | OBS: 3,304,912 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI15.R110622 | Text | OBS: 3,522,759 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI16.R110623 | Text | OBS: 3,558,024 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI17.R110701 | Text | OBS: 3,789,995 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI18.R110629 | Text | OBS: 3,328,860 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI19.R110630 | Text | OBS: 3,380,202 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI20.R110705 | Text | OBS: 3,538,074 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI21.R110706 | Text | OBS: 3,752,427 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI22.R110707 | Text | OBS: 3,756,635 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI23.R110708 | Text | OBS: 3,365,659 |
| OPDR.TG.PRD.ETTW.N8043.TRF10.NUMI24.R110711 | Text | OBS: 2,687,900 |
| | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI1.SSD | Text | OBS: 999,988 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI2.SSD | Text | OBS: 999,986 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI3.SSD | Text | OBS: 999,989 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI4.SSD | Text | OBS: 999,990 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI5.SSD | Text | OBS: 999,992 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI6.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI7.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI8.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI9.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI10.SSD | Text | OBS: 999,997 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI11.SSD | Text | OBS: 999,986 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI12.SSD | Text | OBS: 999,995 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI13.SSD | Text | OBS: 999,996 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI14.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI15.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI16.SSD | Text | OBS: 999,999 |

| | | |
|---|---|---|
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI17.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI18.SSD | Text | OBS: 999,997 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI19.SSD | Text | OBS: 999,996 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI20.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI21.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI22.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI23.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI24.SSD | Text | OBS: 1,003,817 |

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| | |
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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI1.SSD | Text | OBS: 999,988 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI2.SSD | Text | OBS: 999,986 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI3.SSD | Text | OBS: 999,989 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI4.SSD | Text | OBS: 999,990 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI5.SSD | Text | OBS: 999,992 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI6.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI7.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI8.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI9.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI10.SSD | Text | OBS: 999,997 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI11.SSD | Text | OBS: 999,986 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI12.SSD | Text | OBS: 999,995 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI13.SSD | Text | OBS: 999,996 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI14.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI15.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI16.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI17.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI18.SSD | Text | OBS: 999,997 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI19.SSD | Text | OBS: 999,996 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI20.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI21.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI22.SSD | Text | OBS: 1,000,000 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI23.SSD | Text | OBS: 999,999 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.NUMI24.SSD | Text | OBS: 1,003,817 |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.#2127.COMBNUM.D1012.SSD | SAS | OBS: 24,003,725 |

**Detail steps:**

1. The 24 section of the Numident raw data files are converted to SAS files.
2. The 24 sections of the Numident SAS files are combined.

**Approximate processing time:**
Step 1: 1 hour and 30 minutes
Step 2: 30 minutes

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.NUM.PRDLIB
JCL: NUMJCL (See Appendix A.46)
SAS Code: READNUM (See Appendix A.47)
Logfile: OPDR.TG.PRD.ETTW.#2127.TRF10.NUM.READNUM

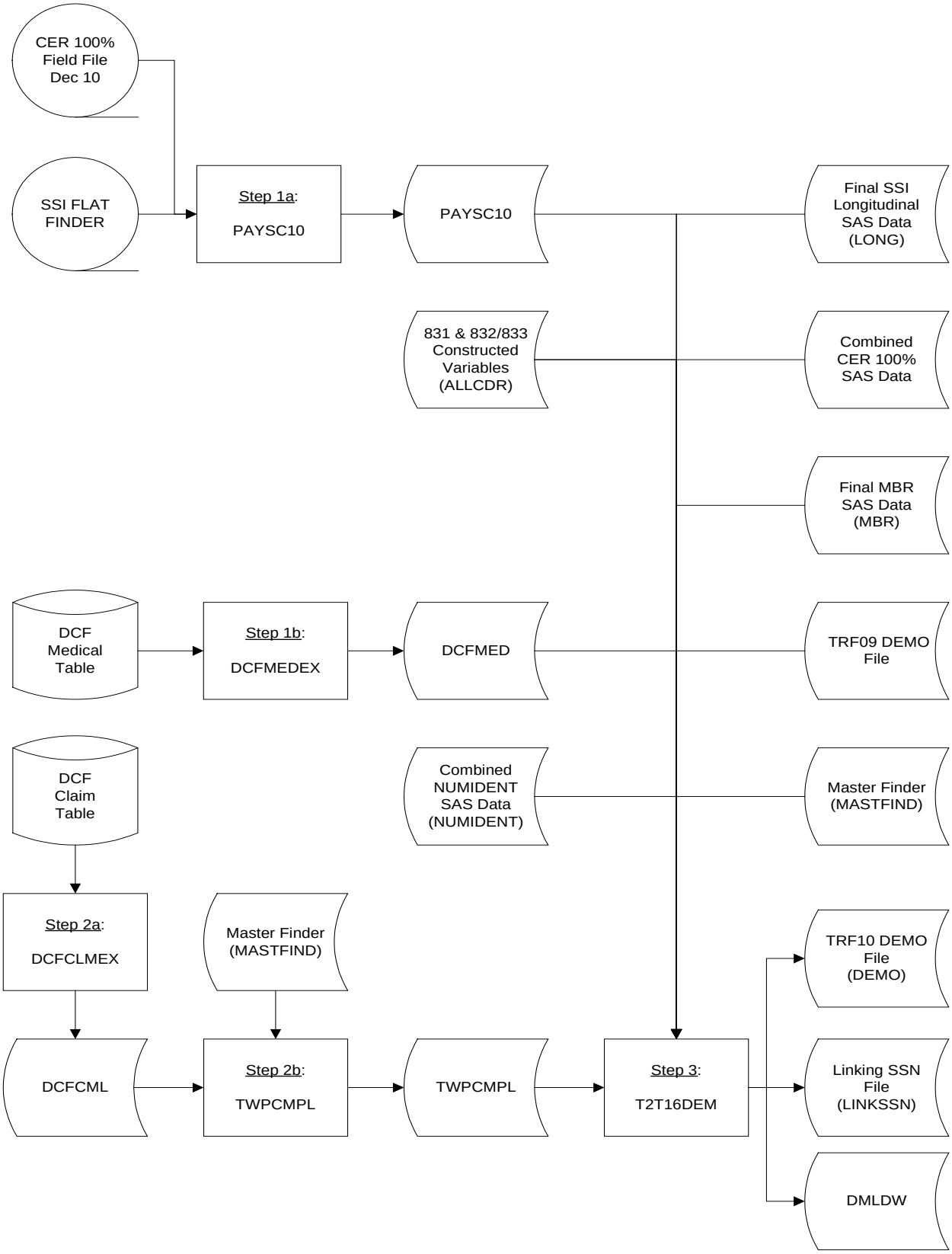
Step 2:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.NUM.PRDLIB
JCL/SAS Code: COMBNUM (See Appendix A.48)
Logfile: OPDR.TG.PRD.ETTW.#2127.TRF10.NUM.COMBNUM

**Program QA:**

1. Check that each of the output segments has approximately 1,000,000 records.
2. Review the distribution of SSN's in each segment. Each successive segment should have a progressive augmentation of the SSN number.
3. Confirm that each segment returned contains a different group of SSN's. There have been mistakes where SSA has returned two segments with the same SSN's.

**Data Documentation:** SSA Program Analyst Manual, (Rand Document, May 2007) Chapter 7

Task 10


CER 100% Field File Dec 10
SSI FLAT FINDER
Step 1a: PAYSC10
PAYSC10
Final SSI Longitudinal SAS Data (LONG)
831 & 832/833 Constructed Variables (ALLCDR)
Combined CER 100% SAS Data
Final MBR SAS Data (MBR)
DCF Medical Table
Step 1b: DCFMEDEX
DCFMED
TRF09 DEMO File
DCF Claim Table
Combined NUMIDENT SAS Data (NUMIDENT)
Master Finder (MASTFIND)
Step 2a: DCFCLMEX
Master Finder (MASTFIND)
TRF10 DEMO File (DEMO)
DCFCML
Step 2b: TWPCMPL
TWPCMPL
Step 3: T2T16DEM
Linking SSN File (LINKSSN)
DMLDW

| **Task No.:** 10 | **Task Name:** Create TRF Demo Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Compile all the descriptive variables for the beneficiaries using all the data sources.
2. Create additional constructed variables for analysis and output the Demo file.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| MTOSSI.CER100.FIELD.D1012 | Text | 28,478,832 |
| OPDR.TG.PRD.ETTW.N8043.T16FIND.D1012.FLAT | Text | 13,222,702 |
| Step 1b: | | |
| DCF MEDICAL TABLE | DB2 | |
| Step 2a: | | |
| DCF CLAIM TABLE | DB2 | |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFCLM.SA.V1 | SAS | |
| OPDR.TG.PRD.ETTW.N8043.MASTFIND.D1012.SSD | SAS | |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.N8043.TRF09P.DEMO.SA.V2 | SAS | 22,599,069 |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | 13,222,458 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | 16,053,771 |
| OPDR.TG.PRD.ETTW.#2127.COMBNUM.D1012.SSD | SAS | 24,003,725 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ALLCDR.SA.V1 | SAS | 22,321,029 |
| OPDR.TG.PRD.ETTW.N8043.COMBSORD.D1012.SSD | SAS | 7,560,418 |
| OPDR.TG.PRD.ETTW.N8043.MASTFIND.D1012.SSD | SAS | 24,007,160 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TWPCMPL.SA.V1 | SAS | 23,903,705 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFMED.SA.V1 | SAS | 76,477,477 |

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| | |
|---|---|
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| Email: Paul.OLeary@ssa.gov | Email: Elaine.Gilby@ssa.gov |

| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.#3590.PAYSC10.SSD | SAS | 12,220,479 |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFMED.SA.V1 | SAS | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFHMED.SA.V1 | SAS | |
| Step 2a: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFCLM.SA.V1 | SAS | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFHCLM.SA.V1 | SAS | |
| Step 2b: | | |

| | | |
|---|---|---|
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TWPCMPL.SA.V1 | SAS | |
| | | |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DEMO.SA.V1 | SAS | 24,005,236 |
| OPDR.TG.PRD.ETTW.#3590.TRF10.LINKSSN.SSD | SAS | 24,005,236 |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | 24,005,236 |

**Detail steps:**

1a. Extracts the payment state code from the December 2010 CER 100% file.
1b. Create DCF Medical Table.
2a. Create DCF Claim Table.
2b. Obtain trial work period completion month information from the DCF Claim Table.
3. A linking file was produced from the SSN's in the demo for use when creating the yearly files. Records were deleted from the database for DI cases whose birth date on the MBR showed more than 2 years discrepancy and the Numident first name was not the same as the MBR first name.

**Approximate processing time:**

Step 1a: 43 minutes
Step 1b: 5 hours 57 minutes
Step 2a: 6 hours 49 minutes
Step 2b: 4 hours 23 minutes
Step 3: 1 day 17 hours

**Programs:**

Step 1a:
Program Library: OPDR.TG.PRD.ETTW.#3590.LIB10
JCL/SAS Code: PAYSC09 (See Appendix A.49)
Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.DEMO.PAYSC09

Step 1b:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFDEM.PRDLIB
JCL/SAS Code: DCFMEDEX (See Appendix A.50)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFDEM.DCFMEDEX

Step 2a:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFDEM.PRDLIB
JCL/SAS Code: DCFCLMEX (See Appendix A.51)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFDEM.DCFCLMEX

Step 2b:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFDEM.PRDLIB
JCL/SAS Code: TWPCMPL (See Appendix A.52)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFDEM.TWPCMPL

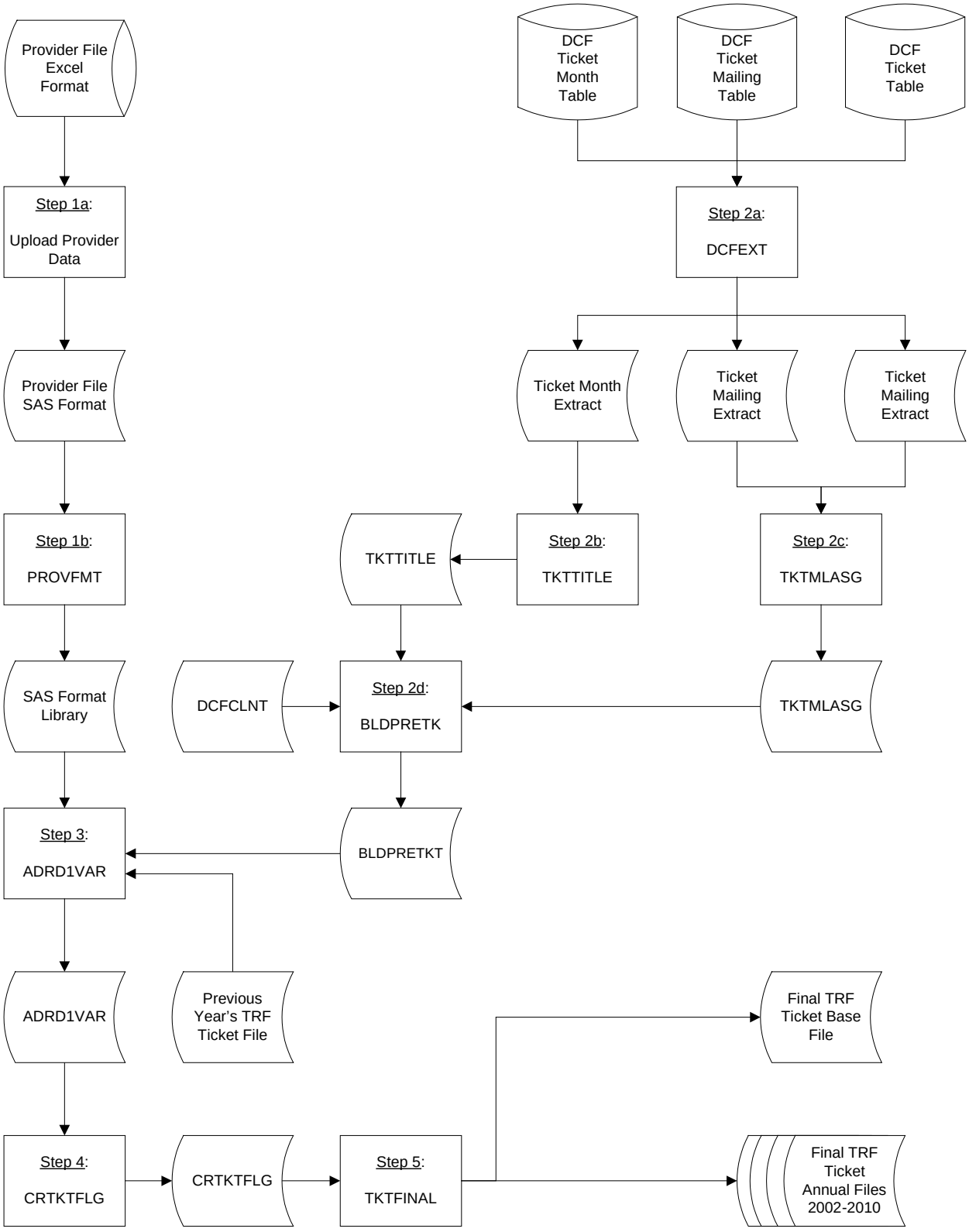
Step 3:
Program Library: OPDR.TG.PRD.ETTW.#3590.TRF10.DEMO.PRDLIB
JCL/SAS Code: T2T16DEM (See Appendix A.53)
Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.DEMO.T2T16DEM

**Program QA:**

1. Check the DEMO by de-duplicating the file on SSN and combinations such as CAN and BIC, then comparing the record counts to those from previous TRF construction efforts while taking into account the number of new records added to the TRF from the DBAD and CER 100% Field Files for 2010.
2. Print out small numbers of records before and after each major processing step and carefully examining key variables to determine whether the processing step functioned as intended.
3. Print and review summary statistics such as FREQs and MEANs and examining them to check that variable contents are as expected.

**Data Documentation:** N/A

Task 11


Provider File Excel Format
DCF Ticket Month Table
DCF Ticket Mailing Table
DCF Ticket Table
Step 1a: Upload Provider Data
Step 2a: DCFEXT
Provider File SAS Format
Ticket Month Extract
Ticket Mailing Extract
Ticket Mailing Extract
Step 1b: PROVFMT
TKTTITLE
Step 2b: TKTTITLE
Step 2c: TKTMLASG
SAS Format Library
DCFCLNT
Step 2d: BLDPRETK
TKTMLASG
Step 3: ADRD1VAR
BLDPRETKT
ADRD1VAR
Previous Year's TRF Ticket File
Final TRF Ticket Base File
Step 4: CRTKTFLG
CRTKTFLG
Step 5: TKTFINAL
Final TRF Ticket Annual Files 2002-2010

| **Task No.:** 11 | **Task Name:** Create TRF Ticket Component |
|---|---|

**Summary**: The purpose of this step is to:

1. Build the ticket portion of the TRF.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| M:\Page\TRF10\Provider Data\Data\PII\EN Provider File 100411 | Excel | 2,722 |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.PROVIDER.SA.V1 | SAS | 2,599 |
| Step 2a: | | |
| DCF TICKET TABLE | DB2 | |
| DCF TICKET ASSIGNMENT TABLE | DB2 | |
| DCF TICKET MONTH TABLE | DB2 | |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFTKTM.SA.V1 | SAS | 34,737,598 |
| Step 2c: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFTKT.SA.V1 | SAS | 18,777,476 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFTKTA.SA.V1 | SAS | 666,926 |
| Step 2d: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TKTMLASG.SA.V1 | SAS | 18,550,343 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TKTTITLE.SA.V1 | SAS | 18,468,460 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFCLNT.SA.V1 | SAS | 53,292,149 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.BLDPRETK.SA.V1 | SAS | 18,550,343 |
| OPDR.TG.PRD.ETTW.N4671.TRF09P.CRTKTFLG.SA.V1 | SAS | 16,753,212 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TKT.FMTLIB | SAS | 2,600 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ADRD1VAR.SA.V1 | SAS | 18,550,707 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.CRTKTFLG.SA.V1 | SAS | 18,550,707 |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1a: | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.PROVIDER.SA.V1 | SAS | 2,599 |
| Step 1b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TKT.FMTLIB | SAS | 2,600 |
| Step 2a: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFTKT.SA.V1 | SAS | 18,777,476 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFTKTA.SA.V1 | SAS | 666,926 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFTKTM.SA.V1 | SAS | 34,737,598 |
| Step 2b: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TKTTITLE.SA.V1 | SAS | 18,468,460 |
| Step 2c: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TKTMLASG.SA.V1 | SAS | 18,550,343 |
| Step 2d: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.BLDPRETK.SA.V1 | SAS | 18,550,343 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ADRD1VAR.SA.V1 | SAS | 18,550,707 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.CRTKTFLG.SA.V1 | SAS | 18,550,707 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKETBS.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET02.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET03.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET04.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET05.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET06.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET07.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET08.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET09.SA.V1 | SAS | 18,550,707 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.TICKET10.SA.V1 | SAS | 18,550,707 |

**Detail steps:**

1. Creates a SAS format for translating the DUNS (Data Universal Numbering System) to the type of provider (V=VR or E = EN).
   a. SAS loads the PC based Excel Provider file and uploads the SAS version to the mainframe
   b. Creates the SAS format
2. Restructures the DCF data to a format consistent with the existing code (from previous rounds) to create the TRF Ticket Portion.
   a. Extracts the DCF Ticket data creating a snapshot of the DCF DB2 tables

b. Restructures the Ticket Month DCF table data into a wide format
c. Combines & restructures the Ticket & Ticket Assignment DCF table data into a wide format
d. Combines the restructured DCF table data to create the starting data for creation of the TRF10 Ticket data

3. Adds previous round data to participant records
4. Creates a variety of flags to identify participants in the ticket program
5. Finalizes the Ticket portion by dropping working variables, adding variable labels, and splitting the file into two components: Base Variable File and Annual Flag Files.

**Approximate processing time:**
Step 1a: 1 minute
Step 1b: 1 minute
Step 2a: 11 hours and 15 minutes
Step 2b: 1 hour 18 minutes
Step 2c: 3 hours 52 minutes
Step 2d: 5 hours 4 minutes
Step 3: 37 hours 42 minutes
Step 4: 31 hours 20 minutes
Step 5: 30 hours 32 minutes

**Programs:**
Step 1a:
Program Library: M:\Page\TRF10\Provider Data\Programs\Upload Provider Data
SAS Code: Upload Provider Data.sas (See Appendix A.54)
Log file: M:\Page\TRF10\Provider Data\Programs\Upload Provider Data.log

Step 1b:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: PROVFMT (See Appendix A.55)
Log file: TG.PRD.ETTW.$2358.TRF10.TKT.PROVFMT

Step 2a:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: DCFEXT (See Appendix A.56)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.DCFEXT

Step 2b:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: TKTTITLE (See Appendix A.57)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.TKTTITLE

Step 2c:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: TKTMLASG (See Appendix A.58)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.TKTMLASG

Step 2d:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB

JCL/SAS Code: BLDPRETK (See Appendix A.59)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.BLDPRETK

Step 3:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: ADRD1VAR (See Appendix A.60)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.ADRD1VAR

Step 4:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: CRTKTFLG (See Appendix A.61)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.CRTKTFLG

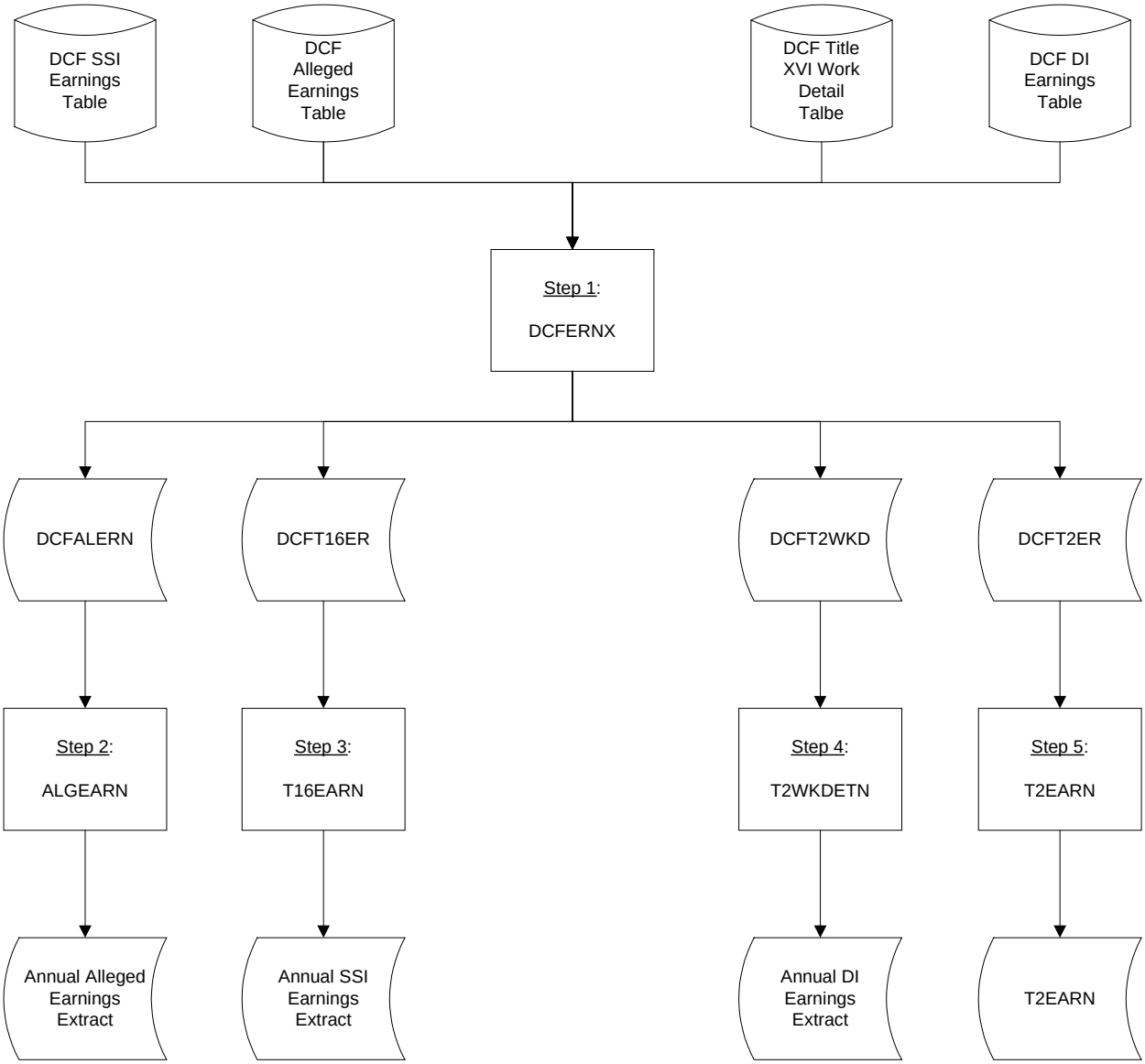
Step 5:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.PRDLIB
JCL/SAS Code: TKTFINAL (See Appendix A.62)
Log file: OPDR.TG.PRD.ETTW.$2358.TRF10.TKT.TKTFINAL

**Program QA:**

1. QA the final Ticket output by first comparing raw numbers from the current DCF to the numbers from prior years. Copy the MAILDT program from the prior year mainframe directory and re-run after adding the current year. Create a new worksheet in the Excel file MAIL_MO.xlsx, which is available on SSA's PC network in the folders allocated to TRF contractors and copy the output from the MAILDT program into the Excel file.
2. Check the number of tickets mailed in the current round of the TRF. The mainframe program is called TKTFLCHK and the output should be copied into a new column in the MAIL_MO.xlsx spreadsheet.
3. Check the number of "lost" tickets that were caused by having a termination date prior or equal to the mail date. The mainframe program is called MLTRMCHK, and the output should be copied into the MAIL_MO.xlsx spreadsheet.

**Data Documentation:** N/A

Task 12


DCF SSI Earnings Table
DCF Alleged Earnings Table
DCF Title XVI Work Detail Talbe
DCF DI Earnings Table
Step 1:
DCFERNX
DCFALERN
DCFT16ER
DCFT2WKD
DCFT2ER
Step 2:
ALGEARN
Step 3:
T16EARN
Step 4:
T2WKDETN
Step 5:
T2EARN
Annual Alleged Earnings Extract
Annual SSI Earnings Extract
Annual DI Earnings Extract
T2EARN

| **Task No.:** 12 | **Task Name:** Format Earnings Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Extract earnings data from DCF tables and reformat the data into monthly (yymm) variables.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT16ER.SA.V1 | DB2 | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT2ER.SA.V1 | DB2 | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFALERN.SA.V1 | DB2 | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT2ER.SA.V1 | DB2 | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFALERN.SA.V1 | SAS | OBS: 95,331 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT16ER.SA.V1 | SAS | OBS: 40,807,503 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT2WKD.SA.V1 | SAS | OBS: 64,328,916 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT2ER.SA.V1 | SAS | OBS: 65,559,242 |

**SSA Contact Staff:**

| | |
|---|---|
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| Email: Paul.OLeary@ssa.gov | Email: Elaine.Gilby@ssa.gov |

| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT16ER.SA.V1 | SAS | OBS: 40,807,503 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT2WKD.SA.V1 | SAS | OBS: 64,328,916 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFALERN.SA.V1 | SAS | OBS: 95,331 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.DCFT2ER.SA.V1 | SAS | OBS: 65,559,242 |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ALGEARN.SA.V1 | SAS | OBS: 14,075 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T16EARN.SA.V1 | SAS | OBS: 2,292,047 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2WKDETN.SA.V1 | SAS | OBS: 2,031,326 |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2EARN.SA.V1 | SAS | OBS: 2,072,263 |

**Detail steps:**

1. Create SAS files of DCF DI Earnings Table, DCF SSI Earnings Table, DCF DI Work Detail Table, and DCF Alleged Earnings Table.
2. Reformats DCF Alleged Earnings data into monthly variables.
3. Reformats DCF SSI Earnings data into monthly variables.
4. Reformats DCF DI Work Detail data into monthly variables.
5. Reformats DCF DI Earnings data into monthly variables.

**Approximate processing time:**
Step 1: 16 hours 20 minutes
Step 2: 7 seconds
Step 3: 3 hours 21 minutes
Step 4: 8 hours
Step 5: 4 hours

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.PRDLIB
JCL/SAS Code: DCFERNEX (See Appendix A.63)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.DCFERNEX

Step 2:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.PRDLIB
JCL/SAS Code: ALGEARN (See Appendix A.64)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.ALGEARN

Step 3:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.PRDLIB
JCL/SAS Code: T16EARN (See Appendix A.65)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.T16EARN

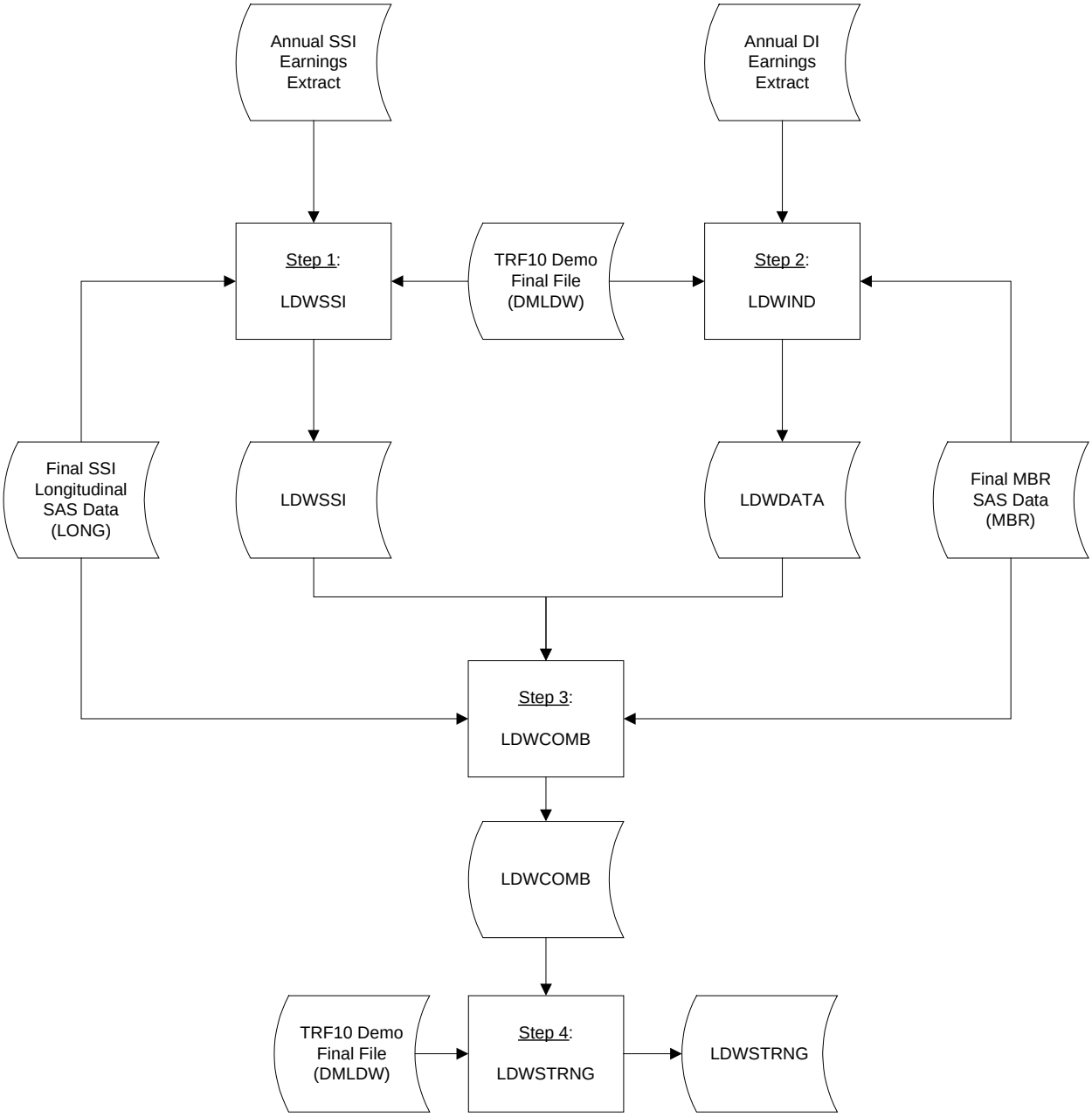
Step 4:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.PRDLIB
JCL/SAS Code: T2WKDETN (See Appendix A.66)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.T2WKDETN

Step 5:
Program Library: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.PRDLIB
JCL/SAS Code: T2EARN (See Appendix A.67)
Logfile: OPDR.TG.PRD.ETTW.$2358.TRF10.DCFANN.T2EARN

**Program QA:** N/A

**Data Documentation:** N/A

Task 13


Annual SSI Earnings Extract
Annual DI Earnings Extract
Step 1: LDWSSI
TRF10 Demo Final File (DMLDW)
Step 2: LDWIND
Final SSI Longitudinal SAS Data (LONG)
LDWSSI
LDWDATA
Final MBR SAS Data (MBR)
Step 3: LDWCOMB
LDWCOMB
TRF10 Demo Final File (DMLDW)
Step 4: LDWSTRNG
LDWSTRNG

| **Task No.:** 13 | **Task Name:** Left Due to Work Flags |
|---|---|

**Summary**: The purpose of this step is to:

1. Create left-due-to-work flags for DI, SSI and DI/SSI concurrent beneficiaries.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T16EARN.SA.V1 | SAS | OBS: 2,292,047 |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2WKDETN.SA.V1 | SAS | OBS: 2,031,326 |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.#2127.LDWSSI.Y2010.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.LDWDATA.SA.V1 | SAS | OBS: 16,051,848 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.#3590.TRF10.LINKSSN.SSD | SAS | OBS: 24,005,236 |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10.LDWCOMB.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | OBS: 24,005,236 |
| Step5: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2WKDETN.SA.V1 | SAS | OBS: 2,031,326 |
| Step6: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T16EARN.SA.V1 | SAS | OBS: 2,292,047 |
| Step7: | | |
| OPDR.TG.PRD.ETTW.N4671.TRF10T.LDWSSI10.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.N4671.TRF10T.LDWDATA.SA.V2 | SAS | OBS: 16,051,848 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.#3590.TRF10.LINKSSN.SSD | SAS | OBS: 24,005,236 |
| Step8: | | |
| OPDR.TG.PRD.ETTW.N4671.TRF10.LDWCOMB.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.DMLDW.SA.V1 | SAS | OBS: 24,005,236 |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: OPDR.TG.PRD.ETTW.#2127.LDWSSI.Y2010.SSD | SAS | OBS: 13,222,458 |
| Step 2: OPDR.TG.PRD.ETTW.#2127.TRF10.LDWDATA.SA.V1 | SAS | OBS: 16,051,848 |
| Step 3: OPDR.TG.PRD.ETTW.#2127.TRF10.LDWCOMB.SA.V1 | SAS | OBS: 24,005,236 |
| Step 4: OPDR.TG.PRD.ETTW.#2127.TRF10.LDWSTRNG.SA.V1 | SAS | OBS: 24,005,236 |
| Step5: OPDR.TG.PRD.ETTW.N4671.TRF10T.LDWDATA.SA.V2 | SAS | OBS: 16,051,848 |
| Step6: OPDR.TG.PRD.ETTW.N4671.TRF10T.LDWSSI10.SSD | SAS | OBS: 13,222,458 |
| Step7: OPDR.TG.PRD.ETTW.N4671.TRF10.LDWCOMB.SA.V2 | SAS | OBS: 24,005,236 |
| Step8: OPDR.TG.PRD.ETTW.N4671.TRF10.LDWSTRNG.SA.V2 | SAS | OBS: 24,005,236 |

**Detail steps:**

1. Combine Final SSI Longitudinal Data with TRF Demo Data and DCF Earnings Data. Construct LDW indicators for SSI beneficiaries.
2. Combine Final MBR Data with TRF Demo Data and DCF TWP Data. Construct LDW Indicators for DI beneficiaries.
3. Combine the program specific SSI and DI LDW indicators and construct across program LDW combined indicators.
4. Extend LDW values to mark continuous periods of LDW periods.
5. Rerun LDWIND2 program.
6. Rerun LDWSSI program.
7. Rerun LDWCOMB program.
8. Rerun LDWSTRNG program.

**Approximate processing time:**

Step 1: 8 hours 30 minutes
Step 2: 12 hours 30 minutes
Step 3: 7 hours 20 minutes
Step 4: 5 hours 30 minutes
Step 5: 12 hours 30 minutes
Step 6: 8 hours 30 minutes
Step 7: 7 hours 20 minutes
Step 8: 5 hours 30 minutes

**Programs:**
Step 1:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWSSI (See Appendix A.68)
Logfile: OPDR.TG.PRD.ETTW.#2127.TRF10.LDW.LDWSSI

Step 2:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWIND (See Appendix A.69)
Logfile: .TG.PRD.ETTW.#2127.TRF10.LDW.LDWIND

Step 3:
Program Library: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWCOMB (See Appendix A.70)
Logfile: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.LDWCOMB

Step 4:
Program Library: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWSTRNG (See Appendix A.71)
Logfile: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.LDWSTRNG

Step5:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWIND2 (See Appendix A.88)
Logfile: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.LDWIND2

Step6:
Program Library: OPDR.TG.PRD.ETTW.N4671.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWSSI (See Appendix A.89)
Logfile: OPDR.TG.PRD. ETTW.N4671.TRF10.LDW.LDWSSI

Step7:
Program Library: OPDR.TG.PRD.ETTW.N4671.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWCOMB (See Appendix A.90)
Logfile: OPDR.TG.PRD. ETTW.N4671.TRF10.LDW.LDWCOMB

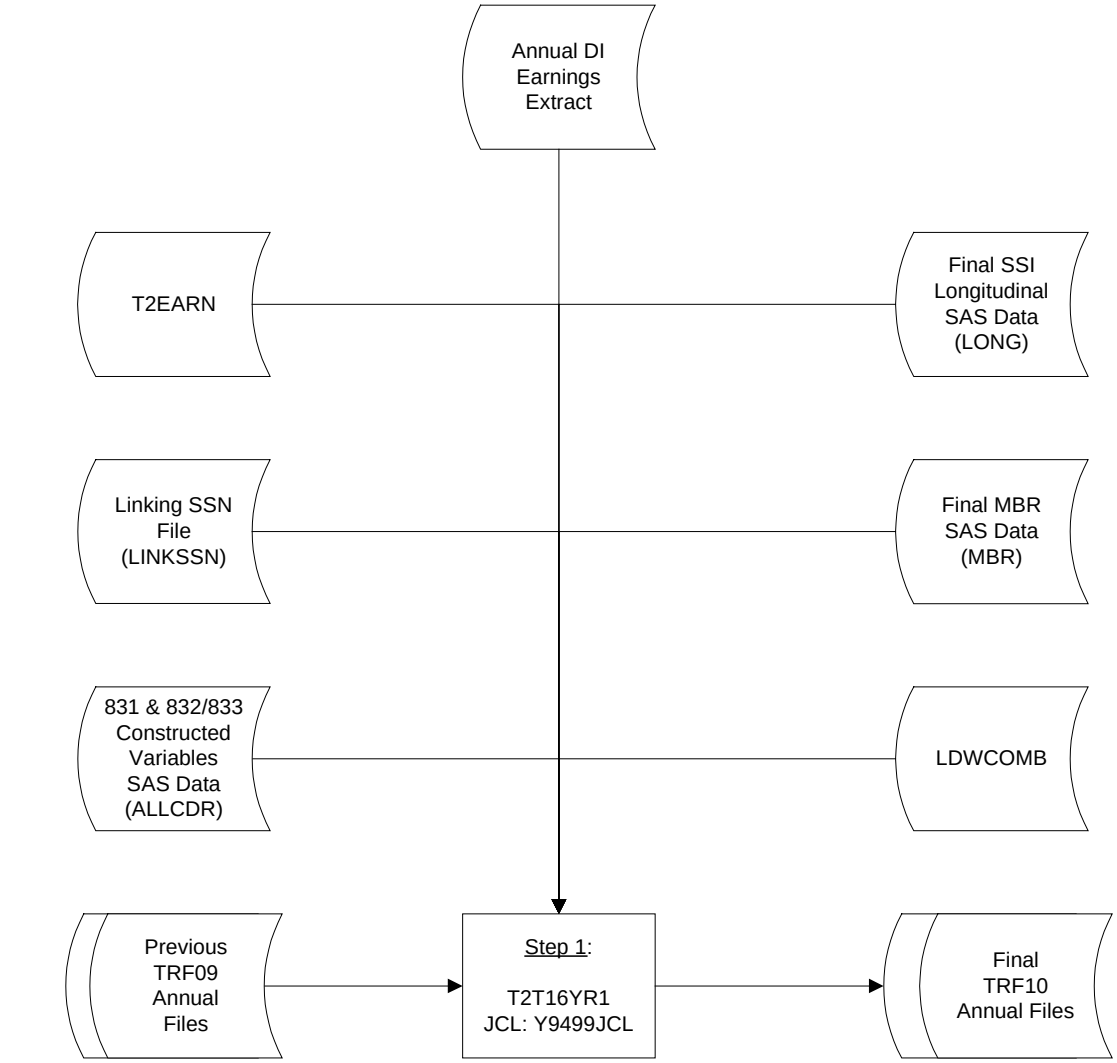
Step 8:
Program Library: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.PRDLIB
JCL/SAS Code: LDWSTRNG (See Appendix A.91)
Logfile: OPDR.TG.PRD. ETTW.#2127.TRF10.LDW.LDWSTRNG

**Program QA:**

1. At each step of the process check data dumps to make sure that the code is working as expected.
2. Check frequencies of each LDW indicator.
3. Cross tabulate the combined LDW indicator with the SSI and DI indicators.
4. Check that the frequencies of the stringed values are reasonable.

**Data Documentation:** N/A

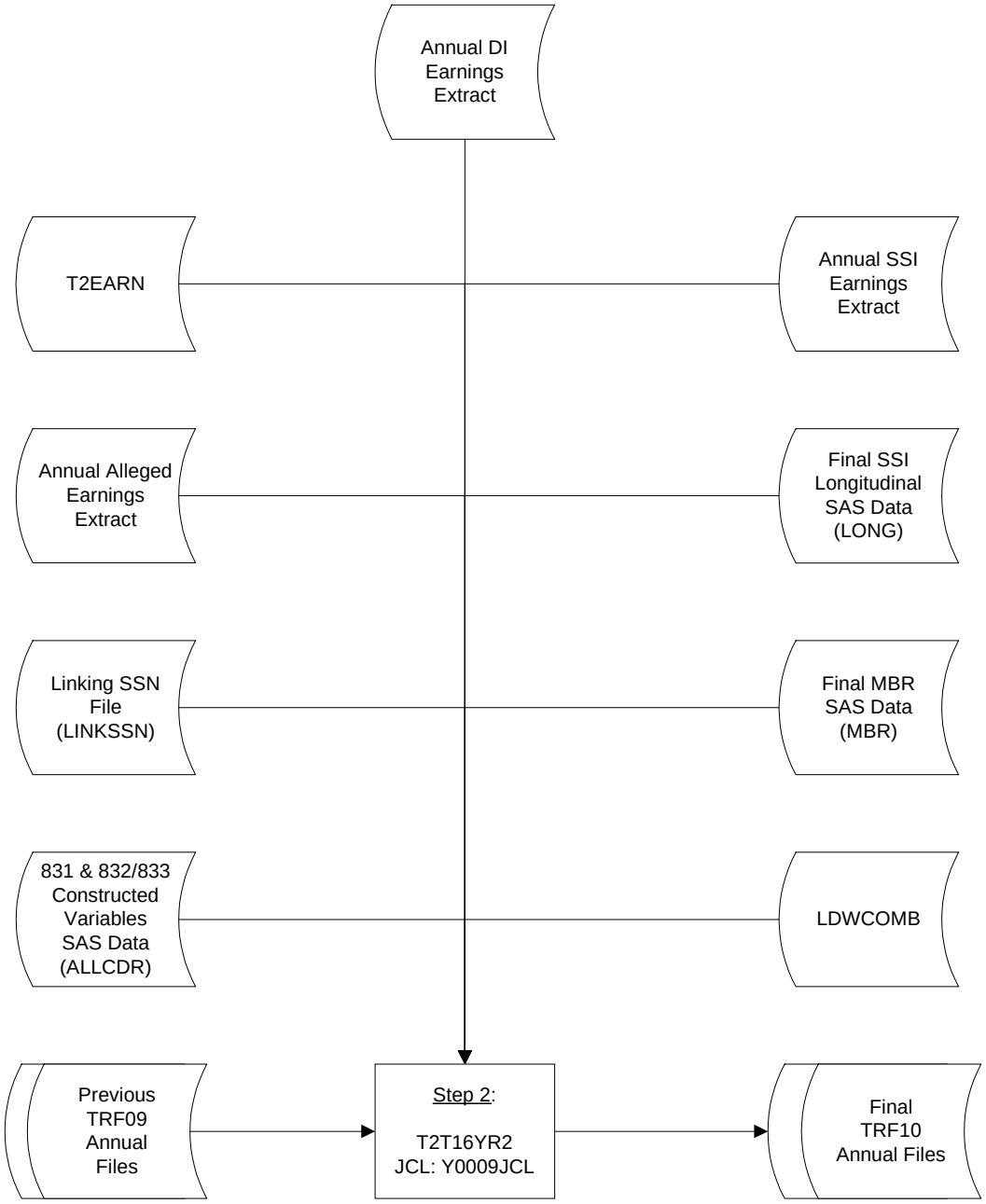
Task 14




Previous TRF09 Annual files for years 1994 – 1999

Final TRF10 Annual files for years 1994 – 1999

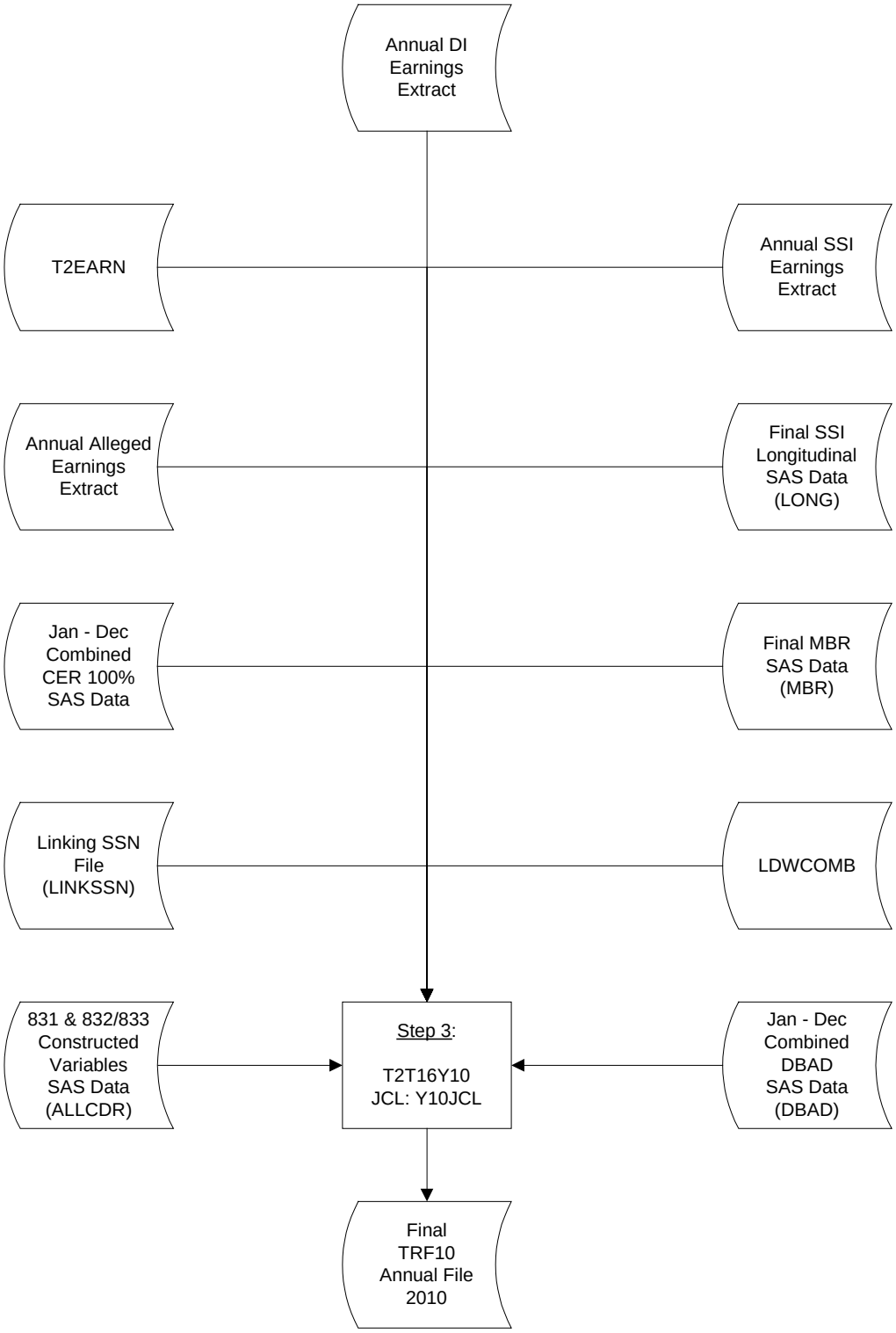
Task 14




Previous TRF09 Annual files for years 2000 – 2009

Final TRF10 Annual files for years 2000 – 2009

Task 14


Annual DI Earnings Extract
T2EARN
Annual SSI Earnings Extract
Annual Alleged Earnings Extract
Final SSI Longitudinal SAS Data (LONG)
Jan - Dec Combined CER 100% SAS Data
Final MBR SAS Data (MBR)
Linking SSN File (LINKSSN)
LDWCOMB
831 & 832/833 Constructed Variables SAS Data (ALLCDR)
Step 3:
T2T16Y10
JCL: Y10JCL
Jan - Dec Combined DBAD SAS Data (DBAD)
Final TRF10 Annual File 2010

| **Task No.:** 14 | **Task Name:** Create TRF Annual Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Compile all the variables which have a monthly fields for the beneficiaries.

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1:1994 - 1999 | | |
| OPDR.TG.PRD.ETTW.N8043.TRF09P.Yyyyy.SA.V1 | SAS | OBS: 22,599,069 |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.N8043.TRF10P.ALLCDR2.SA.V1 | SAS | OBS: 22,321,029 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.LDWSTRNG.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2EARN.SA.V1 | SAS | OBS: 2,072,263 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2WKDETN.SA.V1 | SAS | OBS: 2,031,326 |
| OPDR.TG.PRD.ETTW.#3590.TRF10.LINKSSN.SSD | SAS | OBS: 24,005,236 |
| Step 2: 2000 - 2009 | | |
| OPDR.TG.PRD.ETTW.N8043.TRF09P.Yyyyy.SA.V1 | SAS | OBS: 22,599,069 |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.N8043.TRF10P.ALLCDR2.SA.V1 | SAS | OBS: 22,321,029 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.LDWSTRNG.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2EARN.SA.V1 | SAS | OBS: 2,072,263 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2WKDETN.SA.V1 | SAS | OBS: 2,031,326 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T16EARN.SA.V1 | SAS | OBS: 2,292,047 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ALGEARN.SA.V1 | SAS | OBS: 14,075 |
| OPDR.TG.PRD.ETTW.#3590.TRF10.LINKSSN.SSD | SAS | OBS: 24,005,236 |
| Step 3: 2010 | | |
| OPDR.TG.PRD.ETTW.N8043.T16MRG31.Y2010.SSD | SAS | OBS: 13,222,458 |
| OPDR.TG.PRD.ETTW.N8043.MRGPBEN.D1012.SSD | SAS | OBS: 16,053,771 |
| OPDR.TG.PRD.ETTW.N8043.TRF10P.ALLCDR2.SA.V1 | SAS | OBS: 22,321,029 |
| OPDR.TG.PRD.ETTW.#2127.TRF10.LDWSTRNG.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2EARN.SA.V1 | SAS | OBS: 2,072,263 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T2WKDETN.SA.V1 | SAS | OBS: 2,031,326 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.T16EARN.SA.V1 | SAS | OBS: 2,292,047 |
| OPDR.TG.PRD.ETTW.$2358.TRF10P.ALGEARN.SA.V1 | SAS | OBS: 14,075 |
| OPDR.TG.PRD.ETTW.N8043.COMBSORD.D1012.SSD1 | SAS | OBS: 7,562,617 |
| OPDR.TG.PRD.ETTW.N8043.COMBDBAD.D1012.SSD | SAS | OBS: 10,096,339 |
| OPDR.TG.PRD.ETTW.#3590.TRF10.LINKSSN.SSD | SAS | OBS: 24,005,236 |
| Step 4: 1994-2010 | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1994.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1995.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1996.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1997.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1998.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1999.SA.V2 | SAS | OBS: 24,005,236 |

| | | |
|---|---|---|
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2000.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2001.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2002.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2003.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2004.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2005.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2006.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2007.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2008.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2009.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2010.SA.V2 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.N4671.TRF10.LDWSTRNG.SA.V2 | | |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: 1994 - 1999 | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1994.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1995.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1996.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1997.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1998.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y1999.SA.V1 | SAS | OBS: 24,005,236 |
| | | |
| Step 2: 2000 - 2009 | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2000.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2001.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2002.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2003.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2004.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2005.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2006.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2007.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2008.SA.V1 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2009.SA.V1 | SAS | OBS: 24,005,236 |
| | | |
| Step 3: 2010 | | |
| OPDR.TG.PRD.ETTW.#2127.TRF10P.Y2010.SA.V1 | SAS | OBS: 24,005,236 |
| | | |
| Step 4: 1994-2010 | | |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y1994.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y1995.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y1996.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y1997.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y1998.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y1999.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2000.SA.V3 | SAS | OBS: 24,005,236 |

| | | |
|---|---|---|
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2001.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2002.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2003.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2004.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2005.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2006.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2007.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2008.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2009.SA.V3 | SAS | OBS: 24,005,236 |
| OPDR.TG.PRD.ETTW.#3836.TRF10P.Y2010.SA.V3 | SAS | OBS: 24,005,236 |

**Detail steps:**

**1/2/3.** The process is to input the old yearly file and overwrite all variables using all the data sources for which new information was retrieved. Where new information is not retrieved, i.e. variables from the CER 100% files and DBAD from months prior to the current year, the values are retained. The current CER 100% files and DBAD variables are created for cases still on the files in the current year and the new cases.

**4.** Apply the new LDW patch file to each Annual.

**Approximate processing time:**

Step 1: 2 days per file (6 files)
Step 2: 2 days per file (10 files)
Step 3: 2 days per file (1 file)
Step4 : 2 days per file (17 files)

**Programs:**

Step 1:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.ANN.PRDLIB
JCL: Y9495JCL/Y9697JCL/Y9899JCL (See Appendix A.72/A.73/A.74)
SAS Code: T2T16YR1 (See Appendix A.75)
Logfile: OPDR.TG.PRD.ETTW.#3592.TRF10.ANN.Yyy (yy = 94-99)

Step 2:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.ANN.PRDLIB
JCL: Y0100JCL/Y0302JCL/Y0604JCL/Y0907JCL (See Appendix A.76/A.77/A.78/A.79)
SAS Code: T2T16YR2 (See Appendix A.80)
Logfile: OPDR.TG.PRD.ETTW.#2127.TRF10.ANN.Yyy (yy = 00-09)

Step 3:
Program Library: OPDR.TG.PRD.ETTW.#2127.TRF10.ANN.PRDLIB
JCL/SAS Code: T2T16Y10 (See Appendix A.81)
Logfile: OPDR.TG.PRD.ETTW.#2127.TRF10.ANN.Y10

Step 4:
Program Library: OPDR.TG.PRD.ETTW.#3836.TRF10.ANN.PRDLIB
JCL: LDW94JCL – LDW10JCL (See Appendix A.92)
SAS Code: LDWPATCH (See Appendix A.93)
Logfile: OPDR.TG.PRD.ETTW.#3836.TRF10.ANN.LDWPATCH

**Program QA:**

1. Print out small numbers of records before and after each major processing step and carefully examining key variables to determine whether the processing step functioned as intended.
2. Print and review summary statistics such as FREQs and MEANS and examining them to check that variable contents are as expected.
3. Check the MEANs for all payment variables to verify the relationships among them are logical and that the differences from TRF08 are reasonable.
4. Create flags for each data source and do a crosstab to verify that the distribution of the flags is reasonable.

**Data Documentation:** N/A

| **Task No.:** 15 | **Task Name:** Create Payments Data |
|---|---|

**Summary**: The purpose of this step is to:

1. Compile data about payments made to Employment Networks (ENs).

**Data Source(s):** **Format:** **Approx. # records:**

Step 1:
M:\Page\TRF10\ENPayments\Data\IntermediateData\PII\ENPAY SAS

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**Output:** **Format:** **Approx. # records:**

Step 1:
M:\TRF10\EN Payments\Data\PII\enpayments.sas7bdat SAS

**Detail steps:**

1. The payment data step compiles information about payments made to Employment Networks (ENs). The payments are made for services provided to SSI or DI beneficiaries who assigned their Ticket to an EN under the Milestone-Outcome or Outcome-Only payment system; records of payments under the traditional payment system are not included. The data are derived from the cumulative Payments file made available to SSA each month; individual payment records made to an EN on behalf of DI or SSI beneficiaries are rolled up into a single record per beneficiary.

**Approximate processing time:**

Step 1: 10 min

**Programs:**

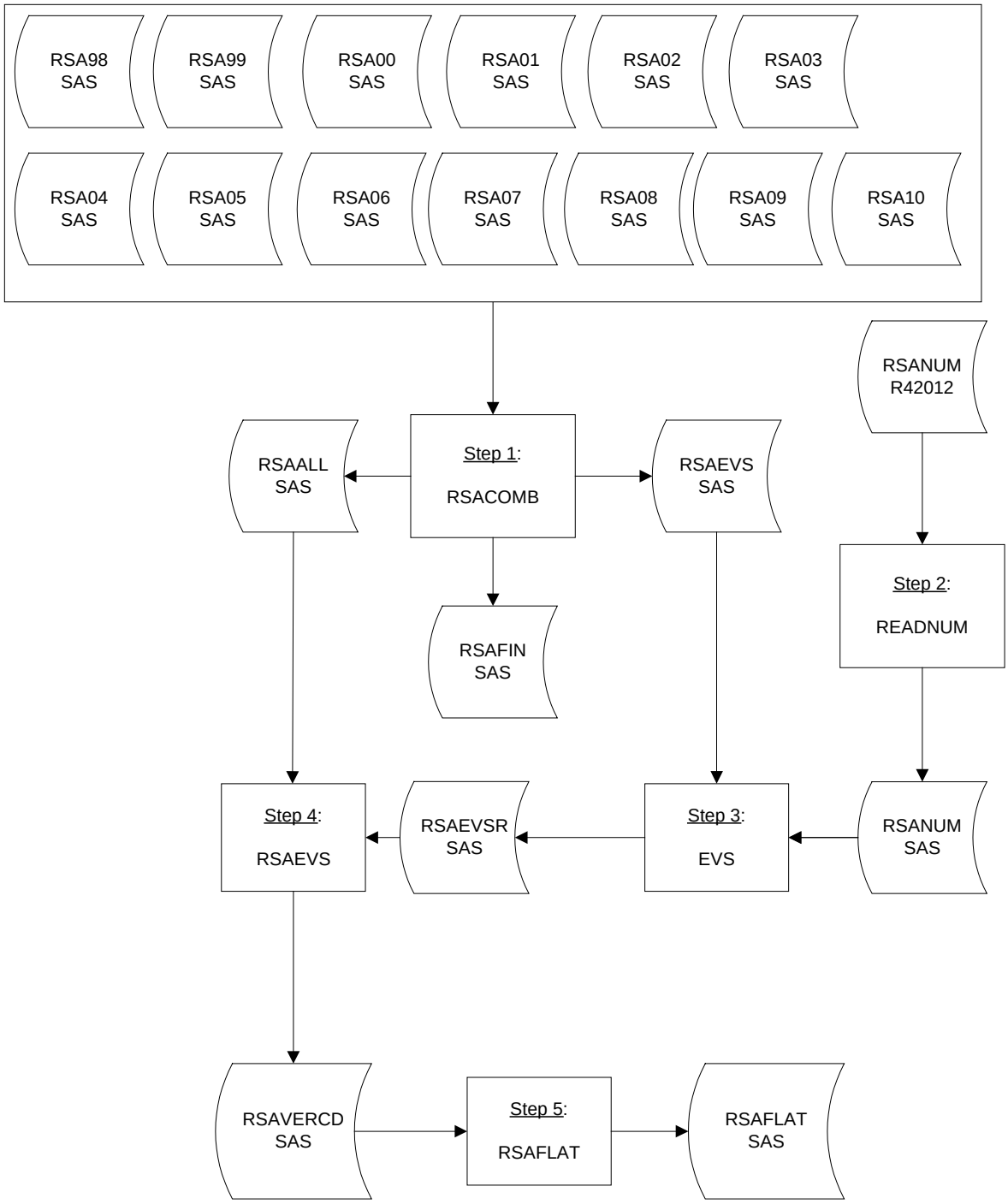
Step 1:
Program Library: M:\TRF10\EN Payments
SAS Code: 2_payment_person_record.sas (See Appendix A.82)
Logfile: 2_payment_person_record.log

**Program QA:**

1. The source file is an Excel file and it has to be sasloaded. Usually some data cleaning is required. Check the formats of each data element in the Excel file for changes since the last release before sasloading the file.
2. Multiple records for each beneficiary are collapsed into a single person-record. Check data dumps before and after this process to determine if the code is working.

**Data Documentation:** N/A

Task 16


RSA98 SAS
RSA99 SAS
RSA00 SAS
RSA01 SAS
RSA02 SAS
RSA03 SAS
RSA04 SAS
RSA05 SAS
RSA06 SAS
RSA07 SAS
RSA08 SAS
RSA09 SAS
RSA10 SAS
RSANUM R42012
RSAALL SAS
Step 1: RSACOMB
RSAEVS SAS
Step 2: READNUM
RSAFIN SAS
Step 4: RSAEVS
RSAEVSR SAS
Step 3: EVS
RSANUM SAS
RSAVERCD SAS
Step 5: RSAFLAT
RSAFLAT SAS

| **Task No.:** 16 | **Task Name:** Create RSA Linkable File |
|---|---|

**Summary**: The purpose of this step is to:

1. Create a RSA (Rehabilitation Services Administration) linkable file

| **Data Source(s):** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.N4671.RSA98.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA99.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA00.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA01.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA02.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA03.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA04.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA05.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA06.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA07.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA08.SA.V1 | | |
| OPDR.TG.PRD.ETTW.N4671.RSA09.SA.V1 | | |
| OPDR.TG.PRD.ETTW.#2127.RSA10.SA.V1 | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.TRF10.RSANUM.R042012 | | |
| Step 3: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10.RSANUM.SA.V1 | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAEVS.FL.V1 | | |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAEVSR.SA.V1 | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAALL.SA.V1 | | |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAVERCD.SA.V1 | SAS | OBS: 8,069,720 |

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| **Output:** | **Format:** | **Approx. # records:** |
|---|---|---|
| Step 1: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAALL.SA.V1 | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAEVS.FL.V1 | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAFIN.FL.V1 | | |
| Step 2: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10.RSANUM.SA.V1 | SAS | OBS: 6,416,523 |
| Step 3: | | |

| | | |
|---|---|---|
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAEVSR.RP.V1 | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAEVSR.SA.V1 | SAS | OBS: 8,069,720 |
| | | |
| Step 4: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAVERCD.SA.V1 | SAS | OBS: 8,069,720 |
| | | |
| Step 5: | | |
| OPDR.TG.PRD.ETTW.#3590.TRF10P.RSAFLAT.SA.V2 | SAS | OBS: 6,125,978 |

**Detail steps:**

1. Combine previous RSA SAS loaded files with RSA10 file.
2. Process RSA Numident Returns.
3. Verify SSNs by comparing SSN, DOB and GENDER on a supplied file against the RSA Numident File.
4. Merge EVS results to all RSA years.
5. Create flatten RSA records to one per SSN.

**Approximate processing time:**

Step 1: 11 minutes
Step 2: 11 minutes
Step 3: 19 minutes
Step 4: 42 minutes
Step 5: 17 minutes

**Programs:**

Step 1:
Program Library: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.PRDLIB
JCL/SAS Code: RSACOMB (See Appendix A.83)
Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.RSACOMB

Step 2:
Program Library: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.PRDLIB
JCL/SAS Code: READNUM (See Appendix A.84)
Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.READNUM

Step 3:
Program Library: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.PRDLIB
JCL/SAS Code: EVS (See Appendix A.85)
Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.EVS

Step 4:
Program Library: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.PRDLIB
JCL/SAS Code: RSAEVS (See Appendix A.86)
Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.RSAEVS

Step 5:
Program Library: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.PRDLIB
JCL/SAS Code: RSAFLAT (See Appendix A.87)

| |
|---|
| Logfile: OPDR.TG.PRD.ETTW.#3590.TRF10.RSA.RSAFLAT |
| **Program QA:** N/A |
| **Data Documentation:** N/A |